

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V  
HAZARDOUS WASTE MANAGEMENT PERMIT

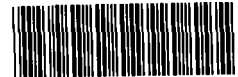
Name of Permittee: Detrex Corporation, Solvents and Environmental Services  
Division

Facility Location: Street Address: 12886 Eaton Avenue  
City, State: Detroit, Michigan 48227

EPA Identification Number: MID 091 605 972

US EPA RECORDS CENTER REGION 5

Effective Date: June 20 1992



1004854

Expiration Date: \_\_\_\_\_

**Authorized Activities:**

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, (42 U.S.C. §6901, et seq.), and regulations promulgated thereunder by the United States Environmental Protection Agency (U.S. EPA) (codified in Title 40 of the Code of Federal Regulations (40 CFR)), Federal permit conditions (hereinafter called the permit) of the RCRA permit are issued to Detrex Corporation, Solvents and Environmental Services (hereinafter called the Permittee), for the facility Detrex Corporation, Solvents and Environmental Services located in Detroit, Michigan.

The RCRA permit contains both the effective Federal permit conditions (contained herein) and the effective State permit conditions issued by the State of Michigan's RCRA program authorized under 40 CFR Part 271 (hereinafter called the State permit). When both this permit and the State permit are effective, the Permittee has an effective RCRA permit which authorizes the Permittee to conduct hazardous waste management activities as specified in the RCRA permit.

**Permit Approval:**

On October 30, 1986, the State of Michigan received final authorization pursuant to Section 3006 of RCRA, 42 U.S.C. §6926, and 40 CFR Part 271, to administer the pre-HSWA RCRA hazardous waste program. Since the State of Michigan has not yet received authorization to administer the entire hazardous waste program requirements of HSWA, additional permit conditions must be issued by the U.S. EPA to address these new requirements. These additional conditions are contained in this permit.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and the applicable regulations contained in 40 CFR Parts 260, 261, 262, 264, 266, 268, 270, and 124, and applicable provisions of HSWA.

This permit is based on the assumption that the information submitted in the permit application, dated August 11, 1988, and in any subsequent amendments (hereinafter referred to as the application), is accurate. Any inaccuracies found in this information may be grounds for the termination, revocation and reissuance, or modification of this permit (see 40 CFR 270.41, 270.42 and 270.43) and potential enforcement action. The Permittee must inform the U.S. EPA of any deviation from or changes in the information in the submitted application and certification as soon as the Permittee becomes aware of such deviation or changes.

**Opportunity to Appeal:**

Petitions for review must be submitted within 30 days after service of notice of the final permit decision. Any person who filed comments on the draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may petition the Environmental Appeals Board to review only to the extent of the changes from the draft to the final permit decision. The procedures for permit appeals are found in 40 CFR 124.19.

**Effective Date:**

The RCRA permit is effective when both this permit and the State permit are effective. This permit is effective as of JUL - 8 1992, unless a review is requested under 40 CFR 124.19. However, if no comments were received requesting a change in the draft permit, the permit shall become effective immediately upon issuance, and shall remain in effect for 5 years, unless revoked and reissued, or terminated (40 CFR 270.41, 270.42, and 270.43), or continued in accordance with 40 CFR 270.51.

Issued this 29<sup>th</sup> day of June,

by William E. Muno  
William E. Muno  
Acting Director  
Waste Management Division

**Detrex Corporation  
Solvents and Environmental Services Division  
Detroit, Michigan**

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**MID 091 605 972**

PERMIT CONDITIONS

## PERMIT CONDITIONS

(Note: The regulatory citations in parentheses are incorporated by reference.)

## I. STANDARD CONDITIONS

A. EFFECT OF PERMIT (40 CFR 270.4 and 270.30(g))

The Permittee is allowed to manage hazardous waste in accordance with the conditions of the RCRA permit. Any management of hazardous waste not authorized in the RCRA permit is prohibited.

Compliance with the RCRA permit during its term constitutes compliance, for the purposes of enforcement, with Subtitle C of RCRA, except for those requirements not included in the permit which become effective by statute, or which are promulgated under 40 CFR Part 268, restricting the placement of hazardous waste in or on the land. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. §9601 et seq., commonly known as CERCLA); or any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS (40 CFR 270.30 (f))

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43. This permit may also be reviewed and modified at any time by the U.S. EPA to include any terms and conditions determined necessary to protect human health and the environment pursuant to Section 3005(c)(3) of RCRA. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY (40 CFR 124.16)

The provisions of this permit are severable, and if any provision of this permit, or if the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. (40 CFR 270.30(a))

The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit (See 40 CFR 270.61). Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and HSWA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, denial of a permit renewal application, or other appropriate action.

2. Duty to Reapply. (40 CFR 270.30(b) and 270.10(h))

The Permittee shall submit a complete application for a new permit at least 180 days before this permit expires unless: a) the Permittee no longer wishes to operate a hazardous waste management facility; b) the Permittee is no longer required to have a RCRA permit; or c) permission for a later date has been granted by the Regional Administrator. The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

3. Permit Expiration. (40 CFR 270.13, 270.14, 270.50, and 270.51)

This permit and all conditions herein shall be effective for a fixed term not to exceed 5 years, and will remain in effect beyond the permit's expiration date only if the Permittee has submitted a timely, complete application (per 40 CFR 270.10 and applicable sections of 270.14 through 270.29): a) to both the U.S. EPA and the State; and b) through no fault of the Permittee, the Regional Administrator and the State have not issued a new permit, as set forth in 40 CFR 270.51.

4. Need to Halt or Reduce Activity Not a Defense. (40 CFR 270.30(c))

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. (40 CFR 270.30(d))

In the event of releases or noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health and the environment.

6. Proper Operation and Maintenance. (40 CFR 270.30(e))

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality control/quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. (40 CFR 270.30(h) and 264.74)

The Permittee shall furnish to the Regional Administrator, within the time designated by the Regional Administrator, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. (40 CFR 270.30(i))

The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

- a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

9. Monitoring and Recordkeeping. (40 CFR 270.30(j), 270.31, 264.73, and 264.74)

The Permittee shall retain all reports, records, or other documents, required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the reports, records or other documents. Corrective Action records must be maintained at least 3 years after all Corrective Action activities have been completed. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

10. Reporting Planned Changes. (40 CFR 270.30(1)(1))

The Permittee shall give notice to the Regional Administrator of any planned physical alterations or additions to the permitted facility, as soon as possible, and at least 30 days before construction of such alteration or addition is commenced.

11. Anticipated Noncompliance. (40 CFR 270.30(1)(2))

The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notice does not constitute a waiver of the Permittee's duty to comply with permit requirements.

12. Transfer of Permits. (40 CFR 270.30(1)(3), 270.40(a), and 264.12(c))

This permit may be transferred by the Permittee to a new owner or operator only after providing notice to the Regional Administrator and only if the permit is modified, or revoked and reissued, pursuant to 40 CFR 270.40(b), 270.41(b)(2), or 270.42(a). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264, 268, and 270 (including all applicable corrective action requirements), and shall provide a copy of the RCRA permit to the new owner or operator.

13. Compliance Schedules. (40 CFR 270.30(1)(5) and 270.33)

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted to the Regional Administrator no later than 14 days following each scheduled date.



14. Twenty-four Hour Reporting. (40 CFR 270.30(1)(6) and 270.33)

The Permittee shall report to the Regional Administrator any noncompliance with the permit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

- a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies; and
- b. Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:
  - (1) Name, address, and telephone number of the owner or operator;
  - (2) Name, address, and telephone number of the facility;
  - (3) Date, time, and type of incident;
  - (4) Name and quantity of material(s) involved;
  - (5) The extent of injuries, if any;
  - (6) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
  - (7) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); steps taken to minimize impact on the environment; whether the noncompliance has been corrected, and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Regional Administrator waives the requirement. Upon waiver of the 5-day requirement, the Permittee shall submit a written report within 15 days of the time the Permittee becomes aware of the circumstances.

15. Other Noncompliance. (40 CFR 270.30(1)(10))

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above within 15 days of when the Permittee becomes aware of the noncompliance. The reports shall contain the information listed in Condition I.D.14.

16. Other Information. (40 CFR 270.30(1)(11))

Whenever the Permittee becomes aware that it failed to submit any relevant facts, or submitted incorrect information to the Regional Administrator in the permit application or in any reports, records, or other documentation provided to the Regional Administrator, the Permittee shall promptly submit such facts or information.

17. Submittal of Reports or Other Information. (40 CFR 270.30(1)(7), (8), and (9), and 270.31)

All reports or other information required to be submitted pursuant to this permit shall be sent to:

RCRA Permitting Branch, HRP-8J  
Waste Management Division  
U.S. EPA, Region V  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Attention: Michigan Section

and

Chief, Waste Management Division  
Michigan Department of Natural Resources  
P.O. Box 30241  
Lansing, Michigan 48909

18. All other requirements contained in RCRA, as amended, and in 40 CFR 270.30 not set forth herein are hereby fully incorporated in this permit.E. SIGNATORY REQUIREMENT (40 CFR 270.30(k))

All reports or other information submitted to or requested by the Regional Administrator, his designee, or authorized representative, shall be signed and certified as required by 40 CFR 270.11.

F. CONFIDENTIAL INFORMATION

In accordance with 40 CFR 270.12 and 40 CFR Part 2, Subpart B, any information submitted to the U.S. EPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or, in the case of other submissions, by marking the words "Confidential Business Information" on each page containing such information. If no claim is made at time of submission, the U.S. EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2.

G. WASTE MINIMIZATION

The Permittee shall certify at least annually that the Permittee has a program in place to reduce the volume and toxicity of hazardous waste that the Permittee generates to the degree determined by the Permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment, in accordance with 40 CFR 264.73(b)(9) and Section 3005(h) of RCRA, 42 U.S.C. §6925(h). The certification shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility.

In addition, the Permittee's biennial report shall contain the following:

1. A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated, as required by 40 CFR 264.75(h);
2. A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years, as required by 40 CFR 264.75(i). Information for the years prior to 1984 is only required to the extent such information is available; and
3. The certification signed by the owner or operator of the facility or his authorized representative, as required by 40 CFR 264.75(j).

H. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, all items required by 40 CFR 264.73, including the following documents and all amendments, revisions, and modifications to these documents:

1. Waste Analysis Plan, as required by 40 CFR 264.13 and this permit;

2. Operating Record, as required by 40 CFR 264.73 and this permit;
3. Notifications from generators accompanying each incoming shipment of wastes subject to 40 CFR Part 268, Subtitle C, that specify treatment standards, as required by 40 CFR 264.73, 268.7, and this permit;
4. Waste minimization certifications must be part of the operating record as required by 40 CFR 264.73(b)(9);
5. Corrective Action reports and records as required by Conditions III.G. and VI. of this permit. These reports and records must be maintained for at least 3 years after all Corrective Action Activities have been completed; and
6. Records regarding closed-vent systems and control devices and/or equipment leaks as required by 40 CFR 264.1035, 264.1064, and 264.73, and Condition V.C. of this permit.

## II. LAND DISPOSAL RESTRICTIONS

### A. GENERAL CONDITIONS

1. The Permittee shall comply with all the applicable self-implementing requirements of 40 CFR Part 268 and all applicable land disposal requirements which become effective by statute (Section 3004 of RCRA).
2. A mixture of any restricted waste with nonrestricted waste(s) is a restricted waste under 40 CFR Part 268.
3. The Permittee shall not in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with 40 CFR Part 268, Subpart D, to circumvent the effective date of a prohibition in 40 CFR Part 268, Subpart C, to otherwise avoid a prohibition in 40 CFR Part 268, Subpart C, or to circumvent a land disposal prohibition imposed by Section 3004 of RCRA.
4. The Permittee shall prepare and maintain a current list of the hazardous waste codes handled by the facility that are identified in 40 CFR 268, Subparts B and C. The list shall include all waste codes handled by the facility, and any associated treatment standards, and shall be updated through the inclusion of new treatment standards, as promulgated or amended. This list shall be provided to the U.S. EPA representatives, or their designees, upon request.

### B. TESTING AND RELATED REQUIREMENTS

1. The Permittee must test, in accordance with 40 CFR 268.7(a), any waste generated at the facility, or use knowledge of the waste, to determine if the waste is restricted from land disposal.

2. For restricted wastes with treatment standards expressed as concentrations in the waste extract, as specified in 40 CFR 268.41, the Permittee shall test the treatment residues, or an extract of such residues developed using the test methods described in Appendix II of 40 CFR Part 261 (Toxicity Characteristic Leaching Procedure, or TCLP) to assure that the treatment residues or extract meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
3. For restricted wastes under 40 CFR 268.32 or Section 3004(d) of RCRA, which are not subject to any treatment standards under 40 CFR Part 268, Subpart D, the Permittee shall test the treatment residues according to the generator requirements specified under 40 CFR 268.32 to assure that the treatment residues comply with the applicable prohibitions of 40 CFR Part 268, Subpart C. Such testing shall be performed as required by 40 CFR 264.13.
4. A restricted waste for which a treatment technology is specified under 40 CFR 268.42(a) may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the Administrator under the procedures set forth in 40 CFR 268.42(b).
5. For restricted wastes with treatment standards expressed as concentrations in the waste, as specified in 40 CFR 268.43, the Permittee shall test the treatment residues (not an extract of such residues) to assure that the treatment residues meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
6. The Permittee shall comply with all the applicable notification, certification, and recordkeeping requirements described in 40 CFR 268.7(a) and (b).

C. STORAGE PROHIBITIONS

1. The Permittee shall comply with all the applicable prohibitions on storage of restricted wastes specified in 40 CFR Part 268, Subpart E.
2. Except as otherwise provided in 40 CFR 268.50, the Permittee may store restricted wastes in tanks and containers solely for the purpose of the accumulation of such quantities of hazardous wastes as necessary to facilitate proper recovery, treatment, or disposal provided that:
  - a. Each container is clearly marked to identify its contents and the date each period of accumulation begins; and
  - b. Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility.

3. The Permittee may store restricted wastes for up to 1 year unless the U.S. EPA or its authorized agent can demonstrate that such storage was not solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
4. The Permittee may store restricted wastes beyond 1 year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
5. The Permittee shall not store any liquid hazardous waste containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm unless the waste is stored in a storage facility that meets the requirements of 40 CFR 761.65(b). This waste must be removed from storage and treated or disposed as required by 40 CFR Part 268 within 1 year of the date when such wastes are first put into storage. Condition II.C.4. above, that allows storage for over 1 year with specified demonstration, does not apply to PCB wastes prohibited under 40 CFR 268.32.

### III. CORRECTIVE ACTION REQUIREMENTS

#### A. CORRECTIVE ACTION AT THE FACILITY

In accordance with Section 3004(u) of RCRA and the regulations promulgated pursuant thereto, the Permittee must institute Corrective Action as necessary to protect human health and the environment for all releases of hazardous waste(s) or hazardous constituent(s) from any solid waste management units (SWMUs) at the facility, regardless of the time at which waste was placed in such units.

#### B. CORRECTIVE ACTION BEYOND THE FACILITY BOUNDARY

In accordance with Section 3004(v) of RCRA and the regulations promulgated pursuant thereto, the Permittee must implement Corrective Action(s) beyond the facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Regional Administrator that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be addressed under the RCRA Facility Investigation, Corrective Measures Study, and Corrective Measures Implementation phases, as determined to be necessary on a case-by-case basis.

C. IDENTIFICATION OF SWMUs

At a minimum, corrective action shall be addressed at the solid waste management unit described below.

Fill and Soil

The facility, covering approximately 0.9 acres, specializes in the sale and recovery of spent solvents collected from a variety of industries. Recovery operations at the facility are located within the main building at the facility. Runoff is generally away from the main building. Historically, runoff collected in the containment system on the east side of the main building was discharged to the gravel yard northeast of the main building.

Fill underlain by sand and clay has been encountered during background soil data collection activities. These data collection activities have indicated the presence of organic compounds in the fill and upper portion of the underlying soils. The presence and extent of historical contamination from fill placement and industrial uses shall be investigated and addressed during the RCRA Facility Investigation. The size of the impacted area is unknown. The aerial extent and thickness of the fill shall also be documented.

Given the possible extent of fill and contamination, and the size of the facility, the Permittee may evaluate the feasibility of implementing a single, site-wide corrective action program which would address the environmental impacts from the fill placement and industrial uses at the site.

D. ECOLOGICAL ASSESSMENT

The Permittee shall submit to the Regional Administrator a Preliminary Ecological Assessment Report within 90 days after the effective date of this permit. This report shall be based on existing data and limited field work describing the environmental systems that are susceptible to contaminant exposure from the facility. The Permittee's report shall include the information specified in Task 1 of Attachment IV (Scope of Work for Ecological Assessment).

Within 60 days of the Regional Administrator's written approval of the Preliminary Ecological Assessment Report, the Permittee shall submit a Draft Ecological Assessment Report which will include the information specified in Task 3 of Attachment IV.

The Regional Administrator will approve, modify and approve, or disapprove and provide comments on the Draft Ecological Assessment Report in writing to the Permittee. Within 30 days of receipt of such comments, the Permittee must modify the Draft Ecological Assessment Report, so as to reflect the changes required in the Regional Administrator's comments and submit a Final Ecological Assessment Report. The Final Report must contain adequate information to support further corrective action decisions at the facility.

E. NEWLY IDENTIFIED SWMUs OR RELEASES

1. General Information

The Permittee shall notify the Regional Administrator, within 30 days of discovery, of the following information requirements for any new SWMU identified at the facility, in accordance with 40 CFR 270.14(d):

- a. The location of the unit on the site topographic map;
- b. Designation of the type of unit;
- c. General dimensions and structural description (supply any available drawings);
- d. When the unit was operated; and
- e. Specifications of all waste(s) that have been managed at the unit.

2. Release Information

The Permittee must submit to the Regional Administrator, within 30 days of discovery, all available information pertaining to any release of hazardous waste(s) or hazardous constituent(s) from any new or existing SWMU.

F. CORRECTIVE ACTION FOR NEWLY IDENTIFIED SWMUs AND RELEASES

The Regional Administrator will review the information provided in Condition III.E., above and may, as necessary, require further investigations or corrective measures. The Permittee shall submit a written RCRA Facility Investigation Workplan to the Regional Administrator within 60 days after written notification by the Regional Administrator that further investigation is necessary.

G. CORRECTIVE ACTION ACTIVITIES

1. RCRA Facility Investigation (RFI)

The Permittee shall conduct an RFI to evaluate thoroughly the nature and extent of the release of hazardous waste(s) and hazardous constituent(s) from all SWMUs identified in Condition III.C. above. The major tasks and required submittal dates are shown below. Additional tasks and associated submittal dates may also be specified in the Schedule of Compliance (Permit Condition VI.). The scope of work for each task is found in Attachment I (Scope of Work for a RCRA Facility Investigation).

a. RFI Workplan

The Permittee shall submit a written RFI Workplan to the Regional



Administrator within 90 days after the effective date of this permit.

The Regional Administrator will approve, modify and approve, or disapprove, and provide comments on the Workplan in writing to the Permittee. Within 60 days of receipt of such comments, the Permittee must modify the Workplan, so as to reflect the changes required in the Regional Administrator's comments, or submit a new workplan for the Regional Administrator's approval.

b. RFI Implementation

Within 30 days of the Regional Administrator's written approval of the RFI Workplan, the Permittee shall implement the RFI Workplan according to the terms and schedule in the approved RFI Workplan.

c. RFI Final Report

Within 30 days after the completion of the RFI, the Permittee shall submit an RFI Final Report to the Regional Administrator. The RFI Final Report shall describe the procedures, methods, and results of the RFI. The Final Report must contain adequate information to support further corrective action decisions at the facility.

After the Permittee submits the RFI Final Report, the Regional Administrator shall either approve or disapprove the Report in writing. If the Regional Administrator disapproves the Report, the Regional Administrator shall notify the Permittee in writing of the deficiencies and specify a due date for submittal of a revised Report.

2. Determination of No Further Action

a. Permit Modification

After completion of and based on the results of the RFI and other relevant information, the Permittee may submit an application to the Regional Administrator for a Class 3 permit modification under 40 CFR 270.42(c) to terminate the Corrective Action tasks of the Schedule of Compliance in Section VI. of this permit. Other tasks identified in the Schedule of Compliance shall remain in effect. This permit modification must conclusively demonstrate that there are no releases of hazardous waste(s), including hazardous constituents, from SWMUs at the facility that pose a threat to human health and the environment.

If, based upon review of the Permittee's request for a permit modification, the results of the completed RFI, and other information, including comments received during the 60-day public comment period required for Class 3 permit modifications, the Regional Administrator determines that releases or suspected

releases which were investigated either are nonexistent or do not pose a threat to human health and the environment, the Regional Administrator will grant the requested modification.

b. Periodic Monitoring

A determination of no further action shall not preclude the Regional Administrator from requiring continued or periodic monitoring of air, soil, ground water, or surface water, if necessary to protect human health and the environment, when site-specific circumstances indicate that potential or actual releases of hazardous waste(s) including hazardous constituents are likely to occur.

c. Further Investigations

A determination of no further action shall not preclude the Regional Administrator from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates that a release or likelihood of a release from a SWMU at the facility is likely to pose a threat to human health or the environment. In such a case, the Regional Administrator shall initiate a modification to the Corrective Action Schedule of Compliance to rescind the determination made in accordance with Permit Condition III.G.2.a. Additionally, the Regional Administrator may determine that there is insufficient information on which to base a determination, and may require the Permittee to perform additional investigations as needed to generate the needed information.

3. Corrective Measures Study (CMS)

If the Regional Administrator determines, based on the results of the RFI and other relevant information, that corrective measures are necessary, the Regional Administrator will notify the Permittee in writing that the Permittee shall conduct a CMS. The purpose of the CMS will be to develop and evaluate the corrective action alternative(s) and to outline one or more alternative corrective measure(s) which will satisfy the performance objectives specified by the Regional Administrator. The major tasks and required submittal dates are shown below. Additional tasks and associated submittal dates may also be specified in the Schedule of Compliance (Permit Condition VI.). The Scope of Work for each of the tasks is found in Attachment II (Scope of Work for a Corrective Measure Study).

a. CMS Plan

The Permittee shall submit a written CMS Plan to the Regional Administrator within 90 days from the notification of the requirement to conduct a CMS.

The Regional Administrator will approve, modify and approve, or disapprove and provide comments on the Plan in writing to the Permittee. Within 60 days of receipt of such comments, the Permittee must modify the Plan, so as to reflect the changes required in the Regional Administrator's comments, or submit a new plan for the Regional Administrator's approval.

b. CMS Implementation

Within 30 days of the Regional Administrator's written approval of the CMS Plan, the Permittee shall implement the CMS Plan according to the terms and schedule in the approved CMS Plan.

c. CMS Final Report

Within 60 days after the completion of the CMS, the Permittee shall submit a CMS Final Report to the Regional Administrator. The CMS Final Report shall summarize the results of the investigations for each remedy studied and must include an evaluation of each remedial alternative.

After the Permittee submits the CMS Final Report, the Regional Administrator shall either approve or disapprove the Report in writing. If the Regional Administrator disapproves the Report, the Regional Administrator shall notify the Permittee in writing of the deficiencies and specify a due date for submittal of a revised Report.

4. Corrective Measures Implementation (CMI)

Based on the results of the CMS, the Regional Administrator shall select one or more of the Corrective Measures in the CMS, and shall notify the Permittee in writing of the decision. The Regional Administrator's selection will be based on performance, reliability, implementability, safety, and human health and environmental impact of the measure or measures.

a. Permit Modification

The Regional Administrator will initiate a major permit modification, as provided by 40 CFR 270.41, to require implementation of the corrective measure(s) selected.

b. Financial Assurance

As part of the permit modification of this permit to incorporate CMI, the Permittee shall provide financial assurance in the amount specified by the Regional Administrator for necessary corrective action activities as required by 40 CFR 264.101(b) and (c).

## IV. TOXICITY CHARACTERISTIC

A. WASTE IDENTIFICATION

The Permittee may manage the Toxicity Characteristic (TC) wastes identified below at the facility, subject to the terms of the RCRA permit, in the following units: Tank 12 (1,900 gallons) and Tank 22 (3,600 gallons), with a total storage volume of 5,500 gallons; and storage in 150 55-gallon containers with a total storage volume of 8,250 gallons.

<u>Description of Hazardous Waste</u>	<u>EPA Hazardous Waste Number</u>	<u>Description of Hazardous Waste</u>	<u>EPA Hazardous Waste Number</u>
Waste characteristic for Arsenic	D004	Waste characteristic for 1,4-Dichlorobenzene	D027
Waste characteristic for Barium	D005	Waste characteristic for 1,2-Dichloroethane	D028
Waste characteristic for Cadmium	D006	Waste characteristic for 1,1-Dichloroethylene	D029
Waste characteristic for Chromium	D007	Waste characteristic for 2,4-Dinitrotoluene	D030
Waste characteristic for Lead	D008	Waste characteristic for Hexachloroethane	D034
Waste characteristic for Mercury	D009	Waste characteristic for Methyl Ethyl Ketone	D035
Waste characteristic for Selenium	D010	Waste characteristic for Nitrobenzene	D036
Waste characteristic for Silver	D011	Waste characteristic for Pyridine	D038
Waste characteristic for Benzene	D018	Waste characteristic for Tetrachloroethylene	D039
Waste characteristic for Carbon tetrachloride	D019	Waste characteristic for Trichloroethylene	D040
Waste characteristic for Chlorobenzene	D021	Waste characteristic for Vinyl Chloride	D043
Waste characteristic for Chloroform	D022		

B. WASTE CHARACTERIZATION

The Permittee must use the Toxicity Characteristic Leaching Procedure (TCLP) (Appendix II of 40 CFR Part 261), or use knowledge of the waste to determine whether a waste exhibits the characteristic of toxicity, as defined in 40 CFR 261.24. Use of the TCLP does not exempt the Permittee from also using the Extraction Procedure (EP) toxicity test if required by the State permit conditions.

C. CONDITIONS REGARDING UNITS

All units described in Condition IV.A. above shall be operated in accordance with the State permit conditions pertaining to those units.

V. AIR EMISSION STANDARDS

A. PROCESS VENTS

The Permittee shall comply with all applicable requirements of 40 CFR Part 264, Subpart AA, regarding air emission standards for process vents.

B. EQUIPMENT LEAKS

The Permittee shall comply with all applicable requirements of 40 CFR Part 264, Subpart BB, regarding air emission standards for equipment leaks.

C. RECORDKEEPING

The Permittee shall comply with all applicable recordkeeping and reporting requirements described in 40 CFR 264.1035, 264.1036, 264.1064, and 264.1065.

D. NOTIFICATION OF REGULATED ACTIVITY

The Permittee shall notify the Regional Administrator of any waste management units which become subject to the requirements of 40 CFR Part 264, Subparts AA and BB, within 30 days of startup of the regulated activity.

E. DUTY TO COMPLY WITH FUTURE REQUIREMENTS

The Permittee shall comply with all self-implementing provisions of any future air regulations promulgated under the provisions of Section 3004(n) of RCRA, as amended by HSWA.

VI. SCHEDULE OF COMPLIANCE

Required submittal dates for RFI, CMS, CMI, Ecological Assessment, and Air Emission Standards are shown below:

A. RFI (Attachment I)

<u>Facility Submission</u>	<u>Due date</u>
Description of Current Situation (Task I)	Within 90 days of the effective date of the permit
Pre-Investigation Evaluation of Corrective Measures Technologies (Task II)	Within 90 days of effective date of permit
RFI Workplan (Task III)	Within 90 days of the effective date of the permit
Modified or New RFI Workplan, if necessary (Task III)	Within 60 days of receipt of comments from the Regional Administrator
Implementation of RFI Workplan	Within 30 days of the Regional Administrator's written approval
RFI Final Report (Tasks IV and V)	Within 30 days of the completion of the RFI
Progress Reports on Task I-VI	Bimonthly

B. CMS (Attachment II)

<u>Facility Submission</u>	<u>Due date</u>
CMS Plan (Tasks VII, VIII, and IX)	Within 90 days of the notification of the requirement
Modification or new CMS, if necessary	Within 60 days of receipt of Regional Administrator comments
Implementation of CMS	Within 30 days of the Regional Administrator's written approval
CMS Final Report	Within 60 days of the completion of the CMS
Progress Reports on Tasks VII, VIII, and IX	Bimonthly

**C. CMI (Attachment III)**Facility SubmissionDue Date

Draft Program Plans  
(Task XI)

Within 60 days of receipt of  
notification by the Regional  
Administrator of the Corrective  
Measures

Final Program Plans

Within 30 days of receipt of  
Regional Administrator's comments  
on Draft Program Plans

Design Phases (Task XII)  
-Preliminary Design  
(30% complete)

Within 90 days of submittal of  
Final Program Plans

-Intermediate Design  
(60% complete)

Within 180 days of submittal of  
Final Program Plans, if required

-Pre-Final Design  
(95% complete)

Within 270 days of submittal of  
Final Program Plans

-Final Design  
(100% complete)

Within 60 days of submittal of  
Pre-Final Design Plans

(Tasks XII.B. through F)  
-Draft Submittals  
-Final Submittals

Concurrent with Pre-Design  
Concurrent with Final Design

Additional Studies:  
Draft Report  
(Task XII G.2)

(Date established prior to Final  
Design)

Additional Studies:  
Final Report  
(Task XII G.2)

Within 60 days of receipt of  
comments from the Regional  
Administrator on Draft Report

Draft Construction Quality  
Assurance Plan  
(Task XIII) XIV

Prior to Construction

Final Construction Quality  
Assurance Plan

Within 30 days of receipt of  
Regional Administrator/MDNR comments  
on Draft Construction Quality  
Assurance Plan

Construction of Corrective  
Measure(s)

As approved in Final Design

Completion of Construction

As approved by the Regional Administrator in the Corrective Measure Design

Draft CMI Report  
(Task XIV) ~~XV~~

Within 60 days of completion of construction phase

Final CMI Report

Within 30 days of receipt of comments from the Regional Administrator on Draft CMI Report

Progress Reports for  
Tasks XI through XIII

Monthly

Progress Reports During  
Operation and Maintenance

Semi-Annually

**D. Ecological Assessment  
(Attachment IV)**

Facility Submission

Due Date

Preliminary Ecological Assessment  
(Task 1)

Within 90 days of effective date of the permit

Draft Ecological Assessment  
(Task 3)

Within 60 days of receipt of the Regional Administrator's written approval

Final Ecological Assessment  
(Task 4)

Within 30 days of receipt of comments from the Regional Administrator

**E. Air Emission Regulations**

Facility Submission

Due Date

Submittal of information requirements for waste management units subject to Subparts AA and BB of 40 CFR Part 264

Within 30 days of effective date of the permit



**MID 091 605 972**

**ATTACHMENT I**

**SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION  
AT  
DETREX CORPORATION, SOLVENTS AND ENVIRONMENTAL SERVICES DIVISION**

**PURPOSE**

The purpose of this RCRA Facility Investigation (RFI) is to determine the nature and extent of releases from hazardous waste(s) or hazardous constituents from regulated units, solid waste management units, and other source areas at the facility and to gather all necessary data to support the Corrective Measures Study. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RCRA remedial investigation at Detrex Corporation, Solvents and Environmental Services Division in Detroit, Michigan.

**SCOPE**

The RCRA Facility Investigation consists of six tasks:

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**TASK I: DESCRIPTION OF CURRENT CONDITIONS**

The Permittee shall submit for U.S. EPA's approval a report providing the background information pertinent to the facility, contamination and interim measures as set forth below. The data gathered during any previous investigations or inspections and other relevant data shall be included.

**A. FACILITY BACKGROUND**

The Permittee's report shall summarize the regional location, pertinent boundary features, general facility physiography, hydrogeology, and historical use of the facility for the treatment, storage or disposal of solid and hazardous waste. The Permittee's report shall include:

1. Topographic Map(s) showing a distance of 1,000 feet around the facility at a scale of 2.5 cm (1 inch) equal to not more than 61.0 meters (200 feet), depicting the following:
  - a. Map scale and date;
  - b. General geographic location;
  - c. Legal boundaries, with the owners of all adjacent property clearly indicated;
  - d. Topography and surface drainage (with a contour interval of 2 feet and a scale of 1 inch = 100 feet) depicting all surface waters including intermittent streams, pattern surface water flow in the vicinity of and from each operational unit of the facility, wetlands, 100-year floodplains, drainage patterns, and surface water containment areas;
  - e. Barriers for drainage or flood control;
  - f. Location of all storage areas, buildings, utilities, paved areas, easements, rights-of-way; and other structures (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.);
  - g. Location of all solid or hazardous waste treatment, storage or disposal areas within the facility, active after November 19, 1980, and "points of compliance";
  - h. Location of all known past solid or hazardous waste treatment, storage or disposal areas regardless of whether they were active on November 19, 1980;

- i. All known past and present product and waste underground tanks or piping;
- j. Surrounding land uses (residential, commercial, agricultural, recreational);
- k. Location of all production and groundwater monitoring wells. These wells shall be clearly labeled and ground and top of casing elevations and construction details included. These elevations and details may be included as an attachment which outlines well depth, aquifer(s) screened, screen length, screen interval (AMSL), well diameter, well material, and openhole or sand/gravel pack interval (AMSL);
- l. A wind rose (i.e., prevailing wind speed and direction); and
- m. Orientation of the map; and
- n. Terrestrial habitat cover-types (i.e., vegetation communities).

All maps shall be consistent with the requirements set forth in 40 CFR 270.14 and be of sufficient detail and accuracy to locate and report all current and future work performed at the site;

- 2. A history and description of ownership and operation, solid and hazardous waste generation, treatment, storage and disposal activities at the facility;
- 3. Approximate dates or periods of past product and waste releases, identification of the materials released, the amount released, the location where released, and a description of the response actions conducted (local, State, or Federal response units or private parties), including any inspection reports or technical reports generated as a result of the response; and
- 4. A summary of past permits requested and/or received, any enforcement actions and their subsequent responses and a list of documents and studies prepared for the facility.

**B. NATURE AND EXTENT OF CONTAMINATION**

The Permittee shall prepare and submit for U.S. EPA's approval a preliminary report describing the existing information on the nature and extent of contamination.

- 1. The Permittee's report shall summarize all possible source areas of contamination. This, at a minimum, should include all regulated units, solid waste management units, spill areas, and other suspected source areas of contamination. For each area, the Permittee shall identify the following:

- a. Location of unit/area (which shall be depicted on a facility map);
  - b. Quantities of solid and hazardous wastes;
  - c. Hazardous waste or constituents, to the extent known; and
  - d. Areas where additional information is necessary.
2. The Permittee shall prepare an assessment and description of the existing degree and extent of contamination. This should include:
- a. Available monitoring data and qualitative information on locations and levels of contamination at the facility;
  - b. All potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, meteorology, air quality, and migration through food chains; and
  - c. The potential impact(s) on human health and the environment, including demography, groundwater and surface water use, land use, and potential ecological receptors including any threatened or endangered species. Threatened or endangered species possibly on or near the site should be identified as early as possible.

C. IMPLEMENTATION OF INTERIM MEASURES

The Permittee's report shall document interim measures which were or are being undertaken at the facility. This shall include:

1. Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long-term solution at the facility;
2. Design, construction, operation, and maintenance requirements;
3. Schedules for design, construction and monitoring; and
4. Schedule for progress reports.

**TASK II: PRE-INVESTIGATION EVALUATION OF CORRECTIVE MEASURE TECHNOLOGIES**

The Permittee shall submit to the U.S. EPA and the MDNR a report that identifies the potential corrective measure technologies that may be used on-site or off-site for the containment treatment, remediation, and/or disposal of contamination. This report shall also identify any field data that needs to be collected in the facility investigation to facilitate the evaluation and selection of the final corrective measure or measures (e.g., retardation factors, compatibility of waste and construction materials, information to evaluate effectiveness, treatability of wastes, etc.).

### TASK III: RFI WORKPLAN REQUIREMENTS

The Permittee shall prepare a RFI Workplan. This RFI Workplan shall include the development of several plans, which shall be prepared concurrently. During the RFI, it may be necessary to revise the RFI Workplan to increase or decrease the detail of information collected to accommodate the facility-specific situation. The RFI Workplan includes the following:

#### A. PROJECT MANAGEMENT PLAN

The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RFI.

#### B. QUALITY ASSURANCE PROJECT PLAN (QAPJP)

The Permittee shall prepare a plan to document all monitoring procedures, sampling, field measurements and sample analysis performed during the investigation to characterize the environmental setting, source, and contamination, so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented.

For convenience in review, it is a requirement that Quality Assurance Project Plans (QAPjP) are to be prepared using the document control format consisting of the following information, placed in the upper right-hand corner of each document page:

- Project Name;
- Section Number;
- Revision Number;
- Date; and
- Section Page Number.

A QAPjP meeting must be held prior to the preparation of the QAPjP and its supporting documents. During the meeting, U.S. EPA representatives will provide QAPjP preparation guidance and lead a discussion on the specific sampling and analysis issues for the project.

Four copies of the QAPjP must be submitted initially and for each required revision.



The QAPjP must include, but not be limited to, a discussion addressing each of the following items.

1. Title Page and QAPjP Approval

The title page of the QAPjP should contain, at a minimum, provisions for approval by the following parties:

- a. The U.S. EPA Region V Permit Writer;
- b. The U.S. EPA Regional Quality Assurance Manager, Monitoring and Quality Assurance Branch (MQAB);
- c. The responsible Project Officer (PO) and Quality Assurance (QA) Officer for the contract engineering firm; and
- d. Subcontractors, as appropriate (i.e., Laboratories, Sampling, drillers, etc.).

After final approval of the QAPjP by the U.S. EPA Regional Quality Assurance Manager, the Project Coordinator will determine the distribution, and the responsibility for this distribution, of QAPjP copies to each person/organization having a major responsibility for the proposed environmental measurements. This includes, but is not limited to, contractors, subcontractors, and each laboratory.

2. Table of Contents

The Table of Contents shall address each of the following items:

- a. Introduction;
- b. A serial listing of each of the QAPjP elements identified in item numbers 3 through 16 below, shall be provided. Each section, subsection and page shall be clearly labelled and numbered properly;
- c. A listing of any appendices which are required to augment the QAPjP as presented (i.e., SOPs, summaries of past data, etc.) shall be provided;
- d. Following the list of appendices, a listing of any tables and figures which are required to augment the QAPjP shall be provided; and
- e. At the end of the Table of Contents, a listing of the Quality Assurance Section (QAS) officials and other individuals receiving official copies of the QAPjP and any subsequent revisions shall be provided.

### 3. Project Description

The purpose of the project description is to:

- Define the objectives (goal of the remedial activity);
- Describe how the project will be designed to obtain the information needed for these objectives; and
- Define the scope of the QAPjP for reviewers.

The project description element should include the following:

#### a. Introduction

A succinct description of the project including a brief statement addressing the phase(s) of the work and general objectives and investigation;

#### b. Site Description

A description of site-specific features including location, size, borders, important physical features, topographic, geological and hydrogeological information, etc; separate paragraphs/sections shall be used to clearly address each of these items;

#### c. Site History or Background

Chronological history of the site which led to its RCRA status; documentation of known chemicals dumped on site; summary of any previous sampling and analysis efforts; data with overview of these results or copy of previous data reports for the site can be appended to the QAPjP; a summary table of past data along with the analytical methodologies used and their method detection limits (if available) should be provided;

#### d. Target Compounds

Discussion of important site contaminants or target compounds, including required detection limits (RDLs) for RFI/CMS;

#### e. Project Objectives

The project objectives element should include the following:

- (1) Specific objectives;
- (2) The intended data usages; and

A brief statement outlining the usages of all data including any data generated from field screening and/or field measurements. These may include, but are not limited to, the following:

- Qualitative or semiquantitative analyses for selection of sample and/or sampling locations;
- Future enforcement actions;
- Data for remedial action alternatives;
- Determination of hazardous waste characteristics for remedial removals;
- Protection of public health; and
- Definition of extent of environmental contamination.

(3) Data Quality Objective (DQO) summaries from RCRA DQO preparation guidance.

f. Sample Network and Rationale

A succinct description of the monitoring (sampling) network design and rationale. This may be referenced to readily available work and sampling plans. The following are minimum requirements:

- (1) Diagrams or site maps of sampling locations;
- (2) Short rationale of selected sampling locations; and
- (3) Summary table listing matrices, parameters, and their frequency of collection.

**NOTE:** Parameters shall include both laboratory and field parameters. The field parameters may include the following field activities if they are applicable:

- Any field screening (i.e., screening of volatile organics using HNu, OVA, etc.);
- Any field measurements (i.e., pH, conductance, temperature, etc.); and
- Hydrogeologic investigations (i.e., soil permeability, particle size, etc.).

Sample matrices and parameters are best listed in groups for a remedial activity site as follows:

- On-site contaminated soils, sludges, barrels, liquids, or sediments. These types of sampling and analyses are often done to determine disposal methods;
- Ambient monitoring of air, groundwater, surface water, soils, drinking water, river sediments, fish;
- Specifications of filtered or unfiltered sample aliquots for groundwater and surface water must be included as part of the definition of parameters. These types of analyses usually are intended to measure the extent of environmental contamination and to assess public health risks; and
- Regulatory requirements: Appendix IX analyses may be required for certain projects.

g. Project Schedule

A description of dates anticipated for start, milestones, and completion of the project and monitoring activities. A milestone table or a bar chart consisting of project tasks and time lines is appropriate.

4. Project Organization and Responsibility

This element identifies key personnel organizations that are necessary for the remedial activity and apprises them of their responsibilities.

a. Management Responsibilities

Operational responsibilities showing how execution and direct management of the technical and administrative aspects of this project have been assigned as shown in the following table.

Quality Assurance Organization (QA)

<b>Tasks</b>	<b>Responsible organization/Personnel</b>
Final review/approval of QAPjP	U.S. EPA Region V PO and U.S. EPA Region V QA Officer
QA review and approval of reports, SOPs, and field activities; audits of reports, procedures, and activities for identifying, controlling nonconformance for corrective actions	Permittee's Contractor QA Manager
Evidence audits of field records	Permittee's Contractor
Data assessment	Permittee's Contractor
Performance and system audits of laboratories	U.S. EPA Region V Central Regional Laboratory (CRL)
Analysis	Contract Laboratory
Performance and system audits of field activities	U.S. EPA Region V CRL and/or Central District Office (CDO)
Approval of QA Program and laboratory test procedures	U.S. EPA Region V QA Section, U.S. EPA Region V CRL
Include a table, chart or figure showing the project organization and line authority for the Quality Assurance Organization described above.	

5. Quality Assurance Objectives For Measurement Data In Terms Of Precision, Accuracy, Completeness, Representativeness And Comparability

Clearly describe the QA objectives of the project in terms of precision, accuracy, completeness, representativeness and comparability for both field activities (sampling, measurements and screening) and laboratory analyses, including the project required acceptance limits and means to achieve these QA objectives.

**NOTE:** Trip blanks are required at a frequency of one per cooler in which aqueous matrix VOC samples are shipped. Field blanks are required for all aqueous matrix parameters at a frequency of one for every ten or fewer investigative samples. Field

duplicates are required at the same frequency as field blanks, while accounting for all parameters and matrices. These field QC samples must be treated as regular investigative samples concerning sample volume, containers and preservation. Field duplicates must not be composited prior to placing them in the sample containers.

6. Sampling Procedures

If a separate sampling plan (SP) will be written, then the sampling procedures shall be referenced to the SP. Otherwise, the detailed sampling procedures shall be described under this QAPjP element. The description of sampling procedures shall include the following:

- a. Detailed procedures, criteria, or guidelines used for sampling point selection;
- b. Detailed procedures, criteria, or guidelines used for collecting background samples, if any; detailed procedures for preparing composite samples shall also be properly described if composite samples are to be collected;
- c. Detailed procedures for sample collection of each sample matrix or parameters;
- d. Detailed procedures for sample packaging, handling and shipment, including time consideration (i.e., shipped daily by overnight courier) and field filtration requirements and procedures;
- e. Sample containers, reagents, preservations, and holding time requirements - a table is appropriate;
- f. Special conditions for the preparation of sampling containers, and time requirements - a table is appropriate;
- g. Chain-of-custody procedures - including an acceptable sample numbering system;
- h. Detailed procedures for preparing/collecting trip blank samples, field blank samples and field duplicate samples;
- i. Documentation of sampling activities - including forms, notebooks, bound logbook and procedures to record sample history, sampling conditions, etc., and analyses to be taken;
- j. Summary of sampling and analysis - using a table is appropriate;
- k. Field filtering of metals' samples is prohibited; and
- l. Compositing of any samples is prohibited.

7. Sample Custody

Sample custody consists of three major elements, namely, the chain-of-custody procedure for field sampling and measurements, chain-of-custody procedure for laboratory analysis, and the final evidence file. All of these three elements shall be addressed clearly and separately:

- a. Chain-of-custody procedure for field activities including sampling, field measurement and screening;
- b. Chain-of-custody procedure for field activities including sample receiving, log-in, storage, tracking of custody-transfer during sample preparation and analysis, etc.; and
- c. The final evidence file - including the description of file contents and specifying file custodian.

8. Calibration Procedures and Frequency

Describe the calibration procedures and their frequency for both field and laboratory instruments. The description shall include the following:

- a. Field Instruments
  - (1) Initial calibration including multi-level calibration for determination of usable range;
  - (2) Continuing calibration check and acceptable control limits; and
  - (3) Conditions to trigger recalibration.
- b. Laboratory Instruments
  - (1) Initial calibration for each instrument;
  - (2) Initial calibration verification;
  - (3) Continuing calibration check; and
  - (4) Conditions to trigger the recalibration.

9. Analytical Procedures

SW-846 (third edition) methods are preferred. Other U.S. EPA methods from the Clean Water Act (CWA), Superfund Contract Laboratory Program (CLP), Clean Air Act Program, or Safe Drinking Water Act (SDWA) are acceptable when appropriate for the constituent of interest. The following shall be properly addressed:

- a. For SW-846 (third edition) analytical methods, the method for analysis (by number) and all sample preparation procedures (by number). For parameters to be analyzed by methods other than those found in SW-846, the following shall be provided:
  - (1) For nonstandard methods, an appropriate Standard Operating Procedure (SOP) shall be included as an integrated part of the QAPjP; and
  - (2) For modified SW-846 or other standard methods (i.e., Appendix IX or site-specific contaminants), the analytical procedure to be used shall be documented in the format of an SOP.
- b. For U.S. EPA or other standard methods not found in SW-846, a reference to the method manual and procedure number(s) is appropriate.
- c. Chain-of-custody procedure to be used/followed by the analyst of the laboratory performing the analytical services shall be clearly addressed or properly referenced, provided the procedure is described elsewhere in the QAPjP.

10. Internal Quality Control Checks

All specific quality control check methods to be followed for both laboratory and field activities should be described or properly referenced. Items to be considered include the following:

- a. Field Activities Measurements and Screening
  - (1) Continuing calibration check;
  - (2) Replicate analyses;
  - (3) Spike sample analyses;
  - (4) Blank (trip blank, field blank, etc.);
  - (5) Quality Control (QC) Samples;
  - (6) Zero and Span gases (i.e., air monitoring); and
  - (7) Calibration Standards and devices, etc.
- b. Laboratory Analyses
  - (1) Method Blanks;
  - (2) Reagent/Preparation Blanks;



- (3) Matrix Spike and Matrix Spike Duplicates;
- (4) Calibration Standards;
- (5) Internal Standards;
- (6) Surrogate Standards;
- (7) Continuing Calibration Check;
- (8) Calibration Check Standards, etc.; and
- (9) Laboratory duplicate/replicate analysis, etc.

11. Data Reduction, Validation and Reporting

- a. Methods to be used for reducing both field and laboratory data. For instance, reducing data from instrument printout to final reporting units using a calibration curve, and an average response factor or updated response factor, etc., shall be described.
- b. Criteria/guidelines/procedures to be used for data validation shall be described. This function must be performed independent of the laboratory.
- c. The data reporting format including all forms and reporting units shall be described. The description shall include the listing of data package contents (deliverables from the laboratory).

12. Performance and System Audits

This QAPjP element describes the procedures and mechanisms used to ensure that the sampling and analysis are performed per specifications of the QAPjP and that measurement data meet project requirements. A description of both the internal and external audits for the field activity as well as laboratory analysis shall be provided to address this QAPjP element.

- a) Internal Audits which can be implemented by contractor's site manager and/or QA officer. The description provided for this QAPjP element shall address the following:
  - The responsible party for these audits shall be identified;
  - The frequency of these audits to be conducted shall be specified; and
  - Methods/procedures to be used for conducting these audits shall be described.

b) External Audits

The external audits of laboratories selected for a specific monitoring activity are the U.S. EPA's responsibility.

- Laboratory Scientific Support Section (LSSS), Central Regional Laboratory (CRL), Region V is responsible for these audits.

13. Preventive Maintenance

Preventive maintenance procedures to be used for both field and laboratory instruments shall be described. A table showing the type of maintenance to be performed and the frequency is appropriate.

For the maintenance of laboratory instruments used for the analysis of SW-846 methods, the analytical methods can be referenced.

14. Specific Routine Procedures Used to Assess Data Precision, Accuracy, and Completeness

The procedures/equations to be used to aid in assessing the accuracy and precision of analytical data, and completeness of data collection shall be clearly documented or properly referenced.

15. Corrective Action

Corrective actions apply to analytical/equipment problems and noncompliance problems. Analytical/equipment problems may occur during sampling and sample handling, sample preparation, laboratory instrumental analysis, and data review. Noncompliance problems are any nonconformance with the established quality control procedures in the QAPjP.

In order to address this QAPjP element the following shall be provided:

- a. The mechanism of triggering the initiation of limitation of corrective actions;
- b. The proper procedures to be used for initiating, development, approval and implementation of the corrective actions. Parties for initiating, approval and implementation of the corrective actions shall be identified; and
- c. Alternate corrective actions to be taken.

16. Quality Assurance Reports to Management

Quality assurance reports shall be submitted on a periodic basis to management. This shall be done to ensure that problems, if any, identified during the sampling and/or analysis are investigated, and corrective actions are properly taken. For a very simple project, a final report may be substituted for the QA reports.

C. DATA MANAGEMENT PLAN

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

- a. Unique sample or field measurement code;
- b. Sampling or field measurement location and sample or measurement type;
- c. Sampling or field measurement raw data;
- d. Laboratory analysis ID number;
- e. Property or component measured; and
- f. Result of analysis (e.g., concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

- a. Unsorted (raw) data;
- b. Results for each medium, or for each constituent monitored;
- c. Data reduction for statistical analysis;
- d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and
- e. Summary data.

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three-dimensional graphs, etc.):

- a. Display sampling location and sampling grid;
- b. Indicate boundaries of sampling area, and areas where more data are required;
- c. Display levels of contamination at each sampling location;
- d. Display geographical extent of contamination;
- e. Display contamination levels, averages, and maxima;
- f. Illustrate changes in concentration in relation to distance from the source, time, depth or other parameters; and
- g. Indicate features affecting intramedia transport and show potential receptors.

D. HEALTH AND SAFETY PLAN

The Permittee shall prepare a facility Health and Safety Plan.

1. Major elements of the Health and Safety Plan shall include:

- a. Facility description including availability of resources such as roads, water supply, electricity, and telephone service;
- b. Description of the known hazards and an evaluation of the risks associated with the incident and with each activity conducted;
- c. List of key personnel and alternates responsible for site safety, response operations, and for protection of public health;
- d. Delineation of work area;
- e. Description of levels of protection to be worn by personnel in work area;
- f. Establishment of procedures to control site access;
- g. Description of decontamination procedures for personnel and equipment;
- h. Establishment of site emergency procedures;

- i. Emergency medical care for injuries and toxicological problems;
- j. Description of requirements for an environmental surveillance program;
- k. Specification of any routine and special training required for responders; and
- l. Establishment of procedures for protecting workers from weather-related problems.

2. The Facility Health and Safety Plan shall be consistent with:

- a. NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);
- b. EPA Order 1440.1 - Respiratory Protection;
- c. EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in Field Activities;
- d. Facility Contingency Plan;
- e. EPA Standard Operating Safety Guide (1984);
- f. OSHA regulations particularly in 29 CFR 1910 and 1926;
- g. State and local regulations; and
- h. Other EPA guidance as provided.

E. COMMUNITY RELATIONS PLAN

The Permittee shall prepare a plan, for the dissemination of information to the public regarding investigation activities and results.

#### TASK IV: FACILITY INVESTIGATION

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of contamination (Contamination Characterization); and identify actual or potential receptors (Potential Receptor Identification).

The investigations should result in data of adequate technical quality to support the development and evaluation of the corrective measure alternative or alternatives during the Corrective Measures Study.

The site investigation activities shall follow the plans set forth in Task III. All sampling and analyses shall be conducted in accordance with the Data Collection Quality Assurance Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

##### A. ENVIRONMENTAL SETTING

The Permittee shall collect information to supplement and verify existing information on the environmental setting at the facility. The Permittee shall characterize the following:

##### 1. Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

- a. A description of the regional and facility-specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:
  - (1) Regional and facility-specific stratigraphy; description of strata including strike and dip, identification of stratigraphic contacts;
  - (2) Structural geology; description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);
  - (3) Depositional history;
  - (4) Identification and characterization of areas and amounts of recharge and discharge;
  - (5) Regional and facility-specific groundwater flow patterns; and
  - (6) Characterize seasonal variations in the groundwater flow regime.

- b. An analysis of any topographic features that might influence the groundwater flow system. (Note: Stereographic analysis of aerial photographs may aid in this analysis.)
- c. Based on field data, test, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:
  - (1) Hydraulic conductivity and porosity (total and effective);
  - (2) Lithology, grain size, sorting, degree of cementation;
  - (3) An interpretation of hydraulic interconnections between saturated zones; and
  - (4) The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content, etc.).
- d. Based on field studies and cores, structural geology and hydrogeologic cross sections showing the extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of the migration pathways identifying:
  - (1) Sand and gravel deposits in unconsolidated deposits;
  - (2) Zones of fracturing or channeling in consolidated or unconsolidated deposits;
  - (3) Zones of higher permeability or low permeability that might direct and restrict the flow of contaminants;
  - (4) The uppermost aquifer; geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs; and
  - (5) Water-bearing zones above the first confining layer that may serve as a pathway for contaminant migration including perched zones of saturation.
- e. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:
  - (1) Water-level contour and/or potentiometric maps;
  - (2) Hydrologic cross sections showing vertical gradients;

- (3) The flow system, including the vertical and horizontal components of flow; and
  - (4) Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.
- f. A description of manmade influences that may affect the hydrogeology of the site, identifying:
- (1) Active and inactive local water-supply and production wells with an approximate schedule of pumping; and
  - (2) Manmade hydraulic structures (pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).

## 2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of the contaminant release(s). Such characterization shall include, but not be limited to, the following information:

- a. SCS soil classification;
- b. Surface soil distribution;
- c. Soil profile, including ASTM classification of soils;
- d. Transects of soil stratigraphy;
- e. Hydraulic conductivity (saturated and unsaturated);
- f. Relative permeability;
- g. Bulk density;
- h. Porosity;
- i. Soil sorptive capacity;
- j. Cation exchange capacity (CEC);
- k. Soil organic content;
- l. Soil pH;
- m. Particle size distribution;
- n. Depth of water table;
- o. Moisture content;
- p. Effect of stratification on unsaturated flow;
- q. Infiltration;
- r. Evapotranspiration;
- s. Storage capacity;
- t. Vertical flow rate; and
- u. Mineral content.



3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization shall include, but not be limited to, the following activities and information:

- a. Description of the temporal and permanent surface water bodies including:
  - (1) For lakes and estuaries; location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;
  - (2) For impoundments; location, elevation, surface area, depth, volume, freeboard, and purpose of impoundment;
  - (3) For streams, ditches, drains, swamps and channels; location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i.e., 100-year event), and a description of substrate and surface cover;
  - (4) Drainage patterns; and
  - (5) Evapotranspiration.
- b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients ( $\text{NH}_3$ ,  $\text{NO}_3^-/\text{NO}_2^-$ ,  $\text{PO}_4^{3-}$ ), chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.
- c. Description of sediment characteristics including:
  - (1) Deposition area;
  - (2) Thickness profile; and
  - (3) Physical and chemical parameters (e.g., grain size, distribution, density, organic carbon content, ion exchange capacity, pH, etc.), and other parameters as directed by the U.S. EPA.

4. Air

The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information shall include, but not be limited to:

- a. A description of the following parameters:
  - (1) Annual and monthly rainfall averages;
  - (2) Monthly temperature averages and extremes;
  - (3) Wind speed and direction;
  - (4) Relative humidity/dew point;
  - (5) Atmospheric pressure;
  - (6) Evaporation data;
  - (7) Development of inversions; and
  - (8) Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence.
- b. A description of topographic and manmade features which affect air flow and emission patterns, including:
  - (1) Ridges, hills or mountain areas;
  - (2) Canyons or valleys;
  - (3) Surface water bodies (e.g., rivers, lakes, bays, etc.);
  - (4) Wind breaks and forests; and
  - (5) Buildings.

B. SOURCE CHARACTERIZATION

The Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, collected or removed including: type; quantity; physical form; disposition (containment or nature of deposits); and facility characteristics affecting release (e.g., facility security, and engineered barriers). This shall include quantification of the following specific characteristics, at each source area:

1. Unit/Disposal Area characteristics:

- a. Location of unit/disposal area;
- b. Type of unit/disposal area;
- c. Design features;
- d. Operating practices (past and present);
- e. Period of operation;
- f. Age of unit/disposal area;
- g. General physical conditions; and
- h. Method used to close the unit/disposal area.

2. Waste Characteristics:

- a. Type of waste placed in the unit;
  - (1) Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);
  - (2) Quantity; and
  - (3) Chemical composition.
- b. Physical and chemical characteristics;
  - (1) Physical form (solid, liquid, gas);
  - (2) Physical description (e.g., powder, oily sludge);
  - (3) Temperature;
  - (4) pH;
  - (5) General chemical class (e.g., acid, base, solvent);
  - (6) Molecular weight;
  - (7) Density;
  - (8) Boiling point;
  - (9) Viscosity;
  - (10) Solubility in water;
  - (11) Cohesiveness of the waste;
  - (12) Vapor pressure; and
  - (13) Flash point

- c. Migration and dispersal characteristics of the waste;
  - (1) Sorption;
  - (2) Biodegradability, bioconcentration, biotransformation;
  - (3) Photodegradation rates;
  - (4) Hydrolysis rates; and
  - (5) Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. CONTAMINATION CHARACTERIZATION

The Permittee shall collect analytical data on groundwater, soils, surface water, sediment, and subsurface gas contamination in the vicinity of the facility. This data shall be sufficient to define the extent, origin, direction, and rate of movement of contaminant plumes. Data shall include time and location of sampling, media sampled, concentrations found, and conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination

The Permittee shall conduct a groundwater investigation to characterize any plume(s) of contamination at the facility. This investigation shall at a minimum provide the following information:

- a. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility;
- b. The horizontal and vertical direction of contamination movement;
- c. The velocity of contaminant movement;
- d. The horizontal and vertical concentration profiles of Appendix IX constituents in the plume(s);
- e. An evaluation of factors influencing the plume movement; and
- f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil and rock units above the water table in the vicinity of the contaminant release. The investigation shall include the following information:

- a. A description of the vertical and horizontal extent of contamination;
- b. A description of contaminant and soil chemical properties within the contaminant source area and plume; this includes contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;
- c. Specific contaminant concentrations;
- d. The velocity and direction of contaminant movement; and
- e. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface Water and Sediment Contamination

The Permittee shall conduct a surface water investigation to characterize contamination in surface water bodies resulting from contaminant releases at the facility.

The investigation shall include, but not be limited to, the following information:

- a. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility, and the extent of contamination in underlying sediments;
- b. The horizontal and vertical direction of contaminant movement;
- c. The contaminant velocity;
- d. An evaluation of the physical, biological and chemical factors influencing contaminant movement;
- e. An extrapolation of future contaminant movement; and
- f. A description of the chemistry of the contaminated surface waters and sediments; this includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.

The Permittee shall document the procedures used in making the above determinations.

4. Air Contamination

The Permittee shall conduct an investigation to characterize the particulate and gaseous contaminants released into the atmosphere. This investigation shall provide the following information:

- a. A description of the horizontal and vertical direction and velocity of contaminant movement;
- b. The rate and amount of the release; and
- c. The chemical and physical composition of the contaminants(s) released, including horizontal and vertical concentration profiles.

The Permittee shall document the procedures used in making the above determinations.

5. Subsurface Gas Contamination

The Permittee shall conduct an investigation to characterize subsurface gases emitted from buried hazardous waste and hazardous constituents in the groundwater. This investigation shall include the following information:

- a. A description of the horizontal and vertical extent of subsurface gases mitigation;
- b. The chemical composition of the gases being emitted;
- c. The rate, amount, and density of the gases being emitted; and
- d. Horizontal and vertical concentration profiles of the subsurface gases emitted.

The Permittee shall document the procedures used in making the above determinations.

D. POTENTIAL RECEPTORS

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples may be needed. Data on observable effects in ecosystems shall also be obtained following the scope of work identified in Attachment IV. The following characteristics shall be identified:

1. Local uses and possible future uses of groundwater:
  - a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/nonpotable, and industrial); and
  - b. Location of groundwater users including wells and discharge areas.
2. Local uses and possible future uses of surface waters draining the facility:
  - a. Domestic and municipal (e.g., potable and lawn/gardening watering);
  - b. Recreational (e.g., swimming, fishing);
  - c. Agricultural;
  - d. Industrial; and
  - e. Environmental (e.g., fish and wildlife propagation).
3. Human use of, or access to the facility and adjacent lands, including, but not limited to;
  - a. Recreation;
  - b. Hunting;
  - c. Residential;
  - d. Commercial;
  - e. Zoning; and
  - f. Relationship between population locations and prevailing wind direction.
4. A description of the biota, including benthic macro invertebrate and fish communities, in surface water bodies on, adjacent to, or affected by the facility. The aquatic biota expected in these water bodies in the absence of site-related contamination based on physical habitat characteristics should also be discussed;
5. A description of terrestrial habitats on, or potentially affected by the site, and a description of the potential terrestrial animal receptors seen or expected in those habitats, including birds, mammals, and reptiles;

6. A demographic profile of the people who use or have access to the facility and adjacent land, including, but not be limited to age, sex, and sensitive subgroups; and
7. A description of any endangered or threatened species near the facility.

**TASK V: INVESTIGATION ANALYSIS**

The Permittee shall prepare an analysis and summary of all facility investigations and the results. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support the Corrective Measures Study.

**A. DATA ANALYSIS**

The Permittee shall analyze all facility investigation data outlined in Task IV and prepare a report on the type and extent of contamination at the facility including sources and migration pathways. The report shall describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative of the area.

**B. PROTECTION STANDARDS**

The Permittee shall identify all relevant and applicable standards for the protection of human health and the environment (e.g., National Ambient Air Quality Standards, Federally-approved State water quality standards, etc.).

**1. Groundwater Protection Standards**

The Permittee shall provide information to support the U.S. EPA's and the MDNR's selection/development of Groundwater Protection Standards for all the Appendix IX constituents found in the groundwater during the Facility Investigation (Task IV).

- a. The Groundwater Protection Standards shall consist of:
  - (1) the health-based level of that constituent; or
  - (2) the Maximum Concentration Limit (MCL) used for drinking water protection (40 CFR 264.94 Table I), if one exists; or
  - (3) an alternative limit established by the Regional Administrator.
- b. Information to support the U.S. EPA's and the MDNR's subsequent selection of alternative limits shall be developed by the Permittee in accordance with the U.S. EPA and the MDNR's guidance.



- c. Within 30 days of receipt of any proposed ACLs, the U.S. EPA and MDNR shall notify the Permittee in writing of approval, disapproval or modifications. The U.S. EPA shall specify in writing the reason(s) for any disapproval or modification.
- d. Within 30 days of receipt of the U.S. EPA's and the MDNR's notification of disapproval of any proposed ACL, the Permittee shall amend and submit revisions to the U.S. EPA and the MDNR.

2. Other Relevant Protection Standards

The Permittee shall identify all relevant and applicable standards or criteria for the protection of human health and the environment (e.g., National Ambient Air Quality Standards, Federally-approved State Water quality standards, water quality criteria, health advisories, proposed MCLs, etc.).

**TASK VI: REPORTS**

**A. PRELIMINARY AND WORKPLAN**

The Permittee shall submit to the U.S. EPA reports on Task I and II, and RFI activities (Tasks III-V) in accordance with the submission schedule in the permit.

**B. PROGRESS**

The Permittee shall at a minimum provide the U.S. EPA with signed, bimonthly progress reports containing:

1. A description and estimate of the percentage of the RFI completed;
2. Summaries of all findings;
3. Summaries of all changes made in the RFI during the reporting period;
4. Summaries of all contacts with representatives of the local community, public interest groups or State government during the reporting period;
5. Summaries of all problems or potential problems encountered during the reporting period;
6. Actions being taken to rectify problems;
7. Changes in personnel during the reporting period;
8. Projected work for the next reporting period; and
9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

**C. DRAFT AND FINAL**

Upon U.S. EPA approval, the Permittee shall prepare a RFI Report to present Tasks IV and V. The RFI Report shall be developed in draft form for U.S. EPA review. The RFI Report shall be developed in final format incorporating comments received on the Draft RFI Report.

Three copies of all reports, including the Task I Report, Task II Report, Task III Workplan, and both the Draft and Final RFI Reports (Tasks IV-V) shall be provided by the Permittee to U.S. EPA and the MDNR.

MID 091 605 972

ATTACHMENT II

**SCOPE OF WORK FOR A CORRECTIVE MEASURE STUDY  
AT  
DETREX CORPORATION, SOLVENTS AND ENVIRONMENTAL SERVICES DIVISION**

**PURPOSE**

The purpose of this Corrective Measure Study (CMS) is to develop and evaluate the corrective action alternative(s) and to recommend the corrective measure(s) to be taken by Detrex Corporation, Solvents and Environmental Services Division in Detroit, Michigan. The Permittee shall furnish personnel, materials, and services necessary to prepare the corrective measure study, except as otherwise specified.

**SCOPE**

The Corrective Measure Study consists of four tasks: Page

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**TASK VII: IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE ACTION ALTERNATIVE OR ALTERNATIVES**

Based on the results of the RCRA Facility Investigation, the Permittee shall identify, screen and develop the alternative or alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

**A. DESCRIPTION OF CURRENT SITUATION**

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation Report. The Permittee shall provide an update to information presented in Task I of the RFI to the U.S. EPA regarding previous response activities and any interim measures which have been or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RCRA Facility Investigation. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

**B. ESTABLISHMENT OF CORRECTIVE ACTION OBJECTIVES**

The Permittee, in conjunction with the U.S. EPA, shall establish site-specific objectives for the corrective action. These objectives shall be based on human health and environmental criteria, information gathered during the RCRA Facility Investigation, U.S. EPA guidance, and the requirements of any applicable Federal statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 40 CFR 264.100.

**C. SCREENING OF CORRECTIVE MEASURE TECHNOLOGIES**

The Permittee shall review the results of the RCRA Facility Investigation, reassess the technologies specified in Task II, and identify additional technologies which are applicable at the facility. The Permittee shall screen corrective measure technologies identified in Task II of the RFI to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail as follows.

1. Site Characteristics

Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.

2. Waste Characteristics

Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site).

3. Technology Limitations

During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. IDENTIFICATION OF THE CORRECTIVE MEASURE ALTERNATIVE OR ALTERNATIVES

The Permittee shall develop the corrective measure alternative or alternatives based on the corrective action objectives following the preparation of the RFI Report. The Permittee shall rely on engineering practice(s) to determine which of the previously identified technologies appears most suitable for the site. Technologies can be combined to form the overall corrective action alternative or alternatives. The alternative or alternatives developed should represent a workable number of option(s) so that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies in the development of the alternative or alternatives.

**TASK VIII: LABORATORY AND BENCH-SCALE STUDIES**

The Permittee shall conduct laboratory and/or bench-scale studies to determine the applicability of corrective measure technologies to facility conditions. The Permittee shall analyze the technologies based on literature review, vendor contacts, and past experience to determine the testing requirements.

The Permittee shall develop a testing plan identifying the types and goals of the studies, the level of effort needed, and the procedures to be used for data management and interpretation.

Upon completion of the testing, the Permittee shall evaluate the testing results to assess the technology or technologies with respect to the site-specific questions identified in the test plan.

The Permittee shall prepare a report summarizing the testing program and its results, both positive and negative.

**TASK IX: EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVE OR ALTERNATIVES**

The Permittee shall describe each corrective measure alternative that passes through the Initial Screening in Task VII and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

**A. TECHNICAL/ENVIRONMENTAL/HUMAN HEALTH/INSTITUTIONAL**

The Permittee shall provide a description of each corrective measure alternative which includes, but is not limited to, the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas.

**1. Technical**

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

- a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure.
  - (1) Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies.
  - (2) Useful life is defined as the length of time the level of effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.
- b. The Permittee shall provide information on the reliability of each corrective measure including the operation and maintenance requirements and the demonstrated reliability.



- (1) Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered.
  - (2) Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Permittee should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies has been used together effectively, whether failure of any one technology has an immediate impact on receptors, and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.
- c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response.
- (1) Constructability is determined by conditions both internal and external to the facility conditions and includes such items as; location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities.
  - (2) Time has two components that shall be addressed; the time it takes to implement a corrective measure and the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.
- d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short-and long-term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short- and long-term potential exposure to any residual contamination and how it protects human health, both during and after implementation of the corrective measure. The assessment will describe the levels and characterizations of contaminants on-site, potential exposure routes, and potentially affected population. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to the U.S. EPA.

4. Institutional

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, State and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative.

B. COST ESTIMATE

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

a. Direct capital costs include:

- (1) Construction costs: Costs of materials, labor (including fringe benefits and workers' compensation), and equipment required to install the corrective measure;

- (2) Equipment costs: Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;
- (3) Land and site-development costs: Expenses associated with purchase of land and development of existing property; and
- (4) Buildings and services costs: Costs of process and nonprocess buildings, utility connections, purchased services, and disposal costs.

b. Indirect capital costs include:

- (1) Engineering expenses: Costs of administration, design, construction supervision, drafting, and testing of corrective measure alternatives;
- (2) Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;
- (3) Startup and shakedown costs: Costs incurred during corrective measure startup; and
- (4) Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

- a. Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operations;
- b. Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;
- c. Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;
- d. Purchased services: Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

- e. Disposal and treatment costs: Costs of transporting, treating, and disposing of waste materials, such as treatment plant residues, generated during operations;
- f. Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;
- g. Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accidental insurance; real estate taxes on purchased land or rights-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;
- h. Maintenance reserve and contingency funds: Annual payments into escrow funds to cover: (1) costs of anticipated replacement or rebuilding of equipment, and (2) any large unanticipated operation and maintenance costs; and
- i. Other costs: Items that do not fit any of the above categories.

**TASK X: JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES**

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The U.S. EPA will select the corrective measure alternative or alternatives to be implemented based on the results of Tasks VII through IX. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

**A. TECHNICAL**

1. Performance - corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference.
2. Reliability - corrective measure or measures which do not require frequent or complex operation and maintenance activities, and that have proven effective under waste and facility conditions similar to those anticipated, will be given preference.
3. Implementability - corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred.
4. Safety - corrective measure or measures which pose the least threat to the safety of nearby residents and environments, as well as workers during implementation, will be preferred.

**B. HUMAN HEALTH**

The corrective measure or measures must comply with existing U.S. EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

**C. ENVIRONMENTAL**

The corrective measure or measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

**TASK XI: REPORTS**

The Permittee shall prepare a Corrective Measure Study Report presenting the results of Tasks VII through X and recommending a corrective measure alternative. Three copies of the preliminary report shall be provided by the Permittee to the U.S. EPA and the MDNR.

**A. PROGRESS**

The Permittee shall at a minimum provide the U.S. EPA with signed, bimonthly progress reports containing:

1. A description and estimate of the percentage of the CMS completed;
2. Summaries of all findings;
3. Summaries of all changes made in the CMS during the reporting period;
4. Summaries of all contacts with representatives of the local community, public interest groups or State government during the reporting period;
5. Summaries of all problems or potential problems encountered during the reporting period;
6. Actions being taken to rectify problems;
7. Changes in personnel during reporting period;
8. Projected work for the next reporting period; and
9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

**B. DRAFT**

The Report shall at a minimum include:

1. A description of the facility which includes;
  - a. Site topographic map (which includes depiction of plant communities, and fish and wildlife habitats) and preliminary layouts.
2. A summary of the corrective measure or measures;
  - a. Description of the corrective measure or measures and rationale for selection;
  - b. Performance expectations;

- c. Preliminary design criteria and rationale;
  - d. General operation and maintenance requirements; and
  - e. Long-term monitoring requirements to assess attainment of goals relative to groundwater, surface waters, and ecological integrity (ecological monitoring, where applicable, could include assessment of wetland vegetation; soils and hydrology; biotoxicity of surface waters, soils and/or sediments; analysis of biological tissues; and assessment of stream fish and benthic macroinvertebrate communities).
3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures which includes;
- a. Field studies (groundwater, surface water, soil, air); and
  - b. Laboratory studies (bench-scale, pick scale).
4. Design and Implementation Precautions which include;
- a. Special technical problems;
  - b. Additional engineering data required;
  - c. Permits and regulatory requirements;
  - d. Access, easements, rights-of-way;
  - e. Health and safety requirements; and
  - f. Community relations activities.
5. Cost Estimates and Schedules which include;
- a. Capital cost estimate;
  - b. Operation and maintenance cost estimate; and
  - c. Project schedule (design, construction, operation).

Three copies of the draft report shall be provided by the Permittee to the U.S. EPA.

C. FINAL

The Permittee shall finalize the Corrective Measure Study Report incorporating comments received from the U.S. EPA on the Draft Corrective Measure Study Report.

- c. Preliminary design criteria and rationale;
  - d. General operation and maintenance requirements; and
  - e. Long-term monitoring requirements to assess attainment of goals relative to groundwater, surface waters, and ecological integrity (ecological monitoring, where applicable, could include assessment of wetland vegetation; soils and hydrology; biotoxicity of surface waters, soils and/or sediments; analysis of biological tissues; and assessment of stream fish and benthic macroinvertebrate communities).
3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures which includes;
- a. Field studies (groundwater, surface water, soil, air); and
  - b. Laboratory studies (bench-scale, pick scale).
4. Design and Implementation Precautions which include;
- a. Special technical problems;
  - b. Additional engineering data required;
  - c. Permits and regulatory requirements;
  - d. Access, easements, rights-of-way;
  - e. Health and safety requirements; and
  - f. Community relations activities.
5. Cost Estimates and Schedules which include;
- a. Capital cost estimate;
  - b. Operation and maintenance cost estimate; and
  - c. Project schedule (design, construction, operation).

Three copies of the draft report shall be provided by the Permittee to the U.S. EPA.

C. FINAL

The Permittee shall finalize the Corrective Measure Study Report incorporating comments received from the U.S. EPA on the Draft Corrective Measure Study Report.



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**ATTACHMENT III**

SCOPE OF WORK FOR A CORRECTIVE MEASURE IMPLEMENTATION  
AT  
DETREX CORPORATION, SOLVENTS AND ENVIRONMENTAL SERVICES DIVISION

PURPOSE

The purpose of this Corrective Measure Implementation (CMI) program is to design, construct, operate, refine, maintain, and monitor the performance of the corrective measure or measures selected to protect human health and the environment. The Permittee will furnish all personnel, materials and services necessary for the implementation of the corrective measure or measures.

SCOPE

The Corrective Measure Implementation program consists of four tasks;

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**TASK XII: CORRECTIVE MEASURE IMPLEMENTATION PROGRAM PLAN**

The Permittee shall prepare a Corrective Measure Implementation Program Plan. This program will include the development and implementation of several plans which require concurrent preparation. It may be necessary to revise plans as the work is performed to focus efforts on a particular problem. The Program Plan includes the following:

**A. PROGRAM MANAGEMENT PLAN**

The Permittee shall prepare a Program Management Plan which will document the overall management strategy for performing the design, construction, operation, maintenance and monitoring of corrective measure(s). The plan shall document the responsibility and authority of all organizations and key personnel involved with the implementation. The Program Management Plan will also include a description of qualifications of key personnel directing the Corrective Measure Implementation Program, including contractor personnel.

**B. COMMUNITY RELATIONS PLAN**

The Permittee shall revise the Community Relations Plan to include any changes in the level of concern of information needs to the community during the design and construction activities.

1. Specific activities which must be conducted during the design stage are the following:
  - a. Revise the facility Community Relations Plan to reflect knowledge of citizens concerns and involvement at this stage of the process; and
  - b. Prepare and distribute a public notice and an updated fact sheet at the completion of engineering design.
2. Specific activities to be conducted during the construction stage could be the following: depending on citizen interest at a facility at this point in the corrective action process, community relations activities could range from group meetings to fact sheets on the technical status.

**TASK XIII: CORRECTIVE MEASURE DESIGN**

The Permittee shall prepare final construction plans and specifications to implement corrective measure(s) at the facility as defined in the Corrective Measure Study.

**A. DESIGN PLANS AND SPECIFICATIONS**

The Permittee shall develop clear and comprehensive design plans and specifications which include, but are not limited, to the following:

1. Discussion of the design strategy and the design basis, including:
  - a. Compliance with all applicable or relevant environmental and public health standards; and
  - b. Minimization of environmental and public impacts.
2. Discussion of any additional technical factors of importance including:
  - a. Use of currently acceptable environmental control measures and technology;
  - b. The constructability of the design; and
  - c. Use of currently acceptable construction practices and techniques.
3. Description of assumptions made and detailed justification of these assumptions;
4. Discussion of the possible sources of error and reference to possible operation and maintenance problems;
5. Detailed drawings of the proposed design including:
  - a. Qualitative flow sheets; and
  - b. Quantitative flow sheets.
6. Tables listing equipment and specifications;
7. Tables giving material and energy balances; and

8. Appendices including:

- a. Sample calculations (one example presented and explained clearly for significant or unique design calculations);
- b. Derivation of equations essential to understanding the report; and
- c. Results of laboratory or field tests.

B. OPERATION AND MAINTENANCE PLAN

The Permittee shall prepare an Operation and Maintenance Plan (O&M) to cover both implementation and long-term maintenance of the corrective measure. The plan shall be composed of the following elements:

1. Description of normal operation and maintenance including descriptions of tasks for operation, description of tasks for maintenance, prescribed treatment or operation conditions and schedule showing frequency of each O&M task;
2. Description and analysis of potential operating problems including sources of information regarding problems and common and/or anticipated remedies;
3. Description of routine monitoring and laboratory testing and required Quality Assurance/Quality Control (QA/QC) and schedule of monitoring frequency and date, if appropriate, when monitoring may cease;
4. Description of alternate O&M, including alternate procedures to prevent undue hazard should systems fail, and analysis of vulnerability and additional resource requirements should a failure occur;
5. Safety plan including a description of precautions, of necessary equipment, etc., for site personnel and safety tasks required in the event of systems failure;
6. Description of equipment including equipment identification, installation of monitoring components, maintenance of site equipment, and replacement schedule for equipment and installed components; and
7. Records and reporting mechanisms required:
  - a. Daily operating logs;
  - b. Laboratory records;
  - c. Records for operating costs;

- d. Mechanism for reporting emergencies;
- e. Personnel and maintenance records; and
- f. Monthly/annual reports to State agencies.

C. COST ESTIMATE

The Permittee shall develop cost estimates for the purpose of assuring that the facility has the financial resources necessary to construct and implement the corrective measure. The cost estimate developed in the Corrective Measure Study shall be refined to reflect the more detailed/accurate design plans and specifications being developed. The cost estimate shall include both capital and operation and maintenance costs. An Initial Cost Estimate shall be submitted simultaneously with the Pre-final Design submission and the Final Cost Estimate with the Final Design Document.

D. PROJECT SCHEDULE

The Permittee shall develop a Project Schedule for construction and implementation of the corrective measure or measures which identifies timing for initiation and completion of all critical path tasks. The Permittee shall specifically identify dates for completion of the project and major interim milestones. An Initial Project Schedule shall be submitted simultaneously with the Pre-final Design Document submission and the Final Project Schedule with the Final Design Document.

E. CONSTRUCTION QUALITY ASSURANCE OBJECTIVES

The Permittee shall identify and document the objectives and framework for the development of a construction quality assurance program including, but not limited to the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements; and documentation.

F. HEALTH AND SAFETY PLAN

The Permittee shall modify the Health Safety Plan developed for the RCRA Facility Investigation, as necessary, to address the activities to be performed at the facility to implement the corrective measure(s).

G. DESIGN PHASES

The design of the corrective measure(s) should include the phases outlined below.

1. Preliminary design

The Permittee shall submit the Preliminary Design when the design effort is approximately 30 percent complete. At this stage, the Permittee shall have field-verified the existing conditions of the facility. The Preliminary Design shall reflect a level of effort such that the technical requirements of the project have been addressed and outlined so that they may be reviewed to determine if the Final Design will provide an operable and usable corrective measure. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the program. The preliminary construction drawings by the Permittee shall reflect organization and clarity. The scope of the technical specifications shall be outlined in a manner reflecting the final specifications. The Permittee shall include with the preliminary submission design calculations reflecting the same percentage of completion as the designs they support.

2. Intermediate design

Complex project design may necessitate review of the design documents between the Preliminary and the Pre-final/Final Design. At the discretion of the U.S. EPA, a design review may be required at 60 percent completion of the project. The intermediate design submittal should include the same elements as the Pre-final Design.

3. Correlating plans and specifications

General correlation between drawings and technical specifications is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, the Permittee shall:

- a. Coordinate and cross-check the specifications and drawings; and
- b. Complete the proofing of the edited specifications and required cross-checking of all drawings and specifications.

These activities shall be completed prior to the 95 percent pre-final submittal to the U.S. EPA.

4. Equipment start-up and operator training

The Permittee shall prepare and include in the technical specifications governing treatment systems, contractor requirements for providing appropriate service visits by experienced personnel to supervise the installation, adjustment, startup and operational procedures once the startup has been successfully accomplished.

5. Additional Studies

Corrective Measures Implementation may require additional studies to supplement the available technical data. At the direction of the U.S. EPA for any such studies required, the Permittee shall furnish all services, including field work as required, materials, supplies, plant, labor, equipment, investigations, studies and superintendence. Sufficient sampling, testing and analysis shall be performed to optimize the required treatment and/or disposal operations and systems. There shall be an initial meeting of all principle personnel involved in the development of the program. The purpose will be to discuss objectives, resources, communication channels, role of personnel involved and orientation of the site, etc. The interim report shall present the results of the testing with the recommended treatment or disposal system (including options). A review conference shall be scheduled after the interim report has been reviewed by all interested parties. The final report of the testing shall include all data taken during the testing and a summary of the results of the studies.

6. Pre-final and Final Design

The Permittee shall submit the Pre-final/Final Design documents in two parts. The first submission shall be at 95 percent completion of design (i.e., Pre-final). After approval of the pre-final submission, the Permittee shall execute the required revisions and submit the final documents 100 percent complete with reproducible drawings and specifications.

The Pre-final Design submittal shall consist of the Design Plans and Specifications, Operation and Maintenance Plan, Capital and Operating and Maintenance Cost Estimate, Project Schedule, Quality Assurance Plan and Specifications for the Health and Safety Plan.

The final design submittal shall consist of the Final Design Plans and Specifications (100 percent complete), the Permittee's Final Construction Cost Estimate, the Final Operation and Maintenance Plan, Final Quality Assurance Plan, Final Project Schedule and Final Health and Safety Plan specifications. The quality of the design documents should be such that the Permittee would be able to include them in a bid package and invite contractors to submit bids for the construction project.



#### **TASK XIV: CORRECTIVE MEASURE CONSTRUCTION**

Following approval by the U.S. EPA and the MDNR of the final design, the Permittee shall develop and implement a construction quality assurance (CQA) program to ensure, with a reasonable degree of certainty, that the completed corrective measure(s) meets or exceeds all design criteria, plans and specifications. The CQA plan is a facility specific document which must be submitted to the U.S. EPA for approval prior to the start of construction. At a minimum, the CQA plan should include the elements which are summarized below. Upon approval of the CQA plan by the U.S. EPA and the MDNR, the Permittee shall construct and implement the corrective measure(s) in accordance with the approved design, schedule and the CQA plan. The Permittee shall also implement the elements of the approved Operation and Maintenance Plan.

##### **A. RESPONSIBILITY AND AUTHORITY**

The responsibility and authority of all organizations (i.e., technical consultants, construction firms, etc.) and key personnel involved in the construction of the corrective measure shall be described fully in the CQA plan. The Permittee must identify a CQA officer and the necessary supporting inspection staff.

##### **B. CONSTRUCTION QUALITY ASSURANCE PERSONNEL QUALIFICATIONS**

The qualifications of the CQA officer and supporting inspection personnel shall be presented in the CQA plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities.

##### **C. INSPECTION ACTIVITIES**

The observations and tests that will be used to monitor the construction and/or installation of the components of the corrective measure(s) shall be summarized in the CQA plan. The plan shall include the scope and frequency of each type of inspection. Inspections shall verify compliance with all environmental requirements and include, but not be limited to air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. The inspection should also ensure compliance with all health and safety procedures. In addition to oversight inspections, the Permittee shall conduct the following activities:

###### **1. Pre-construction inspection and meeting**

The Permittee shall conduct a pre-construction inspection and meeting to:

- a. Review methods for documenting and reporting inspection data;
- b. Review methods for distributing and storing documents;

- c. Review work area security and safety protocol;
- d. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and
- e. Conduct a site walk-around to verify that design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The pre-construction inspection and meeting shall be documented by a designated person and minutes should be transmitted to all parties.

2. Pre-final inspection

Upon preliminary project completion, the Permittee shall notify the U.S. EPA and the MDNR for the purposes of conducting a pre-final inspection. The pre-final inspection will consist of a walk-through inspection of the entire project site. The purpose of the inspection is to determine whether the project is complete and consistent with the contract documents and the U.S. EPA and the MDNR approved corrective measure. Any outstanding construction items discovered during the inspection will be identified and noted. Additionally, treatment equipment will be operationally tested by the Permittee. The Permittee will certify that the treatment equipment has performed adequately in order to meet the purpose and intent of the specifications. Retesting will be completed where deficiencies are revealed. The pre-final inspection report should outline the outstanding construction items, actions required to resolve items, completion date for these items, and date for final inspection.

3. Final inspection

Upon completion of any outstanding construction items, the Permittee shall notify the U.S. EPA and the MDNR for the purpose of conducting a final inspection. The final inspection will consist of a walk-through inspection of the project site. The pre-final inspection report will be used as a checklist with the final inspection focusing on the outstanding construction items identified in the pre-final inspection. Confirmation shall be made that outstanding items have been resolved.

D. SAMPLING REQUIREMENTS

The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for correcting problems as addressed in the project specifications should be presented in the CQA plan.

E. DOCUMENTATION

Reporting requirements for CQA activities shall be described in detail in the CQA plan. This should include such items as daily summary reports, inspection data sheets, problem identification and corrective measure(s) reports, design acceptance reports, and final documentation. Provisions for the final storage of all records also should be presented in the CQA plan.

## **TASK XV: REPORTS**

The Permittee shall prepare plans, specifications, and reports as set forth in Tasks XII through Task XV to document the design, construction, operation, maintenance, and monitoring of the corrective measure(s). The documentation shall include, but not be limited to the following:

### **A. PROGRESS**

The Permittee shall at a minimum provide the U.S. EPA and the MDNR with signed monthly progress reports during the construction phase, and semi-annual progress reports for operation and maintenance activities containing:

1. A description and estimate of the percentage of the CMI completed;
2. Summaries of all findings;
3. Summaries of all changes made in the CMI during the reporting period;
4. Summaries of all contacts with representatives of the local community, public interest groups or State government during the reporting period;
5. Summaries of all problems or potential problems encountered during the reporting period;
6. Actions being taken to rectify problems;
7. Changes in personnel during the reporting period;
8. Projected work for the next reporting period; and
9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

### **B. DRAFT**

1. The Permittee shall submit a draft Corrective Measure Implementation Program Plan as outlined in Task XII;
2. The Permittee shall submit draft Construction Plans and Specifications, Design Reports, Cost Estimates, Schedules, Operation and Maintenance Plans, and Study Reports as outlined in Task XIII;
3. The Permittee shall submit a draft Construction Quality Assurance Program Plan and Documentation as outlined in Task XIV;

4. At the "completion" of the construction of the project, the Permittee shall submit a Corrective Measure Implementation Report to the Agency. The Report shall document that the project is consistent with the design specifications, and that the corrective measure(s) are performing adequately. The Report shall include, but not be limited to the following elements:
  - a. Synopsis of the corrective measure and certification of the design and construction;
  - b. Explanation of any modifications to the plans and why these were necessary for the project;
  - c. Listing of the criteria, established before the corrective measure(s) were initiated, for judging the functioning of the corrective measure and also explaining any modification to these criteria;
  - d. Results of facility monitoring, indicating that the corrective measure(s) will meet or exceed the performance criteria; and
  - e. Explanation of the operation and maintenance (including monitoring) to be undertaken at the facility.

This report should include all of the daily inspection summary reports, inspection summary reports, inspection data sheets, problem identification and corrective measure(s) reports, block evaluation reports, photographic reporting data sheets, design engineers' acceptance reports, deviations from design and material specifications (with justifying documentation) and as-built drawings.

C. FINAL

The Permittee shall finalize the Corrective Measure Implementation Program Plan, Construction Plans and Specifications, Design Reports, Cost Estimates, Project Schedule, Operating and Maintenance Plan, Study Reports, Construction Quality Assurance Program Plan/Documentation and the Corrective Measure Implementation Report incorporating comments received on the draft submissions.

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**ATTACHMENT IV**

**SCOPE OF WORK FOR AN ECOLOGICAL ASSESSMENT  
AT  
DETREX CORPORATION, SOLVENTS AND ENVIRONMENTAL SERVICES DIVISION**

**PURPOSE**

Tasks 1, 3, and 4 shall be conducted for all sites. Task 2, which involves more detailed ecological investigations, may not be necessary for all sites. The need for Task 2 will be determined by the results of Task 1.

**SCOPE**

The Ecological Assessment consists of four tasks;

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**TASK 1: PRELIMINARY ECOLOGICAL ASSESSMENT REPORT**

The Permittee shall characterize the facility based on existing data and limited field work. This preliminary characterization shall include:

- A. A description of the biota in surface water bodies on, adjacent to, or affected by, the facility;
- B. A description of the ecology overlying and adjacent to the facility;
- C. A description of any endangered or threatened species near the facility;
- D. Identification of facility-specific conditions pertinent to the evaluation of fate and transport processes occurring at the site, such as amount of soil erosion;
- E. Identification of potential and probable exposure points for ecological receptors;
- F. Identification of any known or observed effects of facility contaminants to biota, such as fish kills or other obvious impacts;
- G. An initial toxicity assessment of facility contaminants. The potential for adverse ecological effects from contaminant exposure should be assessed. This preliminary assessment will necessarily contain much uncertainty; a conservative approach should be used; and
- H. An evaluation of the need for more data and further investigations to complete the ecological assessment. Some facilities may not require additional investigations such as those where exposure to ecological receptors is known to be minimal. However, when the initial toxicity assessment provides ambiguous or uncertain conclusions, additional field data are needed (Task 2).

If required by the Regional Administrator, the Permittee shall further characterize site based on additional field investigations. The additional field investigations shall include:

- 1. Habitat identification and evaluation;
- 2. Qualitative and semiquantitative surveys of flora and fauna;
- 3. Toxicity tests; and
- 4. Additional sampling to define contamination.



## **TASK 2: ADDITIONAL INVESTIGATIONS FOR SITE CHARACTERIZATION**

If it is determined that further site characterization is necessary to complete the ecological assessment, the Permittee shall prepare a detailed workplan for further facility investigations. The workplan shall include the following, as appropriate:

- A. An identification of ecological assessment endpoints. Endpoint selection criteria must be clearly explained;
- B. Qualitative, semiquantitative, and quantitative surveys of flora and fauna;
- C. A description of chemical sampling in potentially exposed habitats and reference sites;
- D. A description of laboratory and in situ toxicity testing; and
- E. A description of tissue analyses.

For each proposed investigation above, the Permittee shall provide information regarding the following:

- 1. Study objectives and relevance to overall risk assessment objectives. Study objectives may include documentation of actual or potential endangerment or effects to the environment, the definition of spatial and temporal extent of contamination, development of remediation criteria, or evaluation of ecological effects of remedial alternatives;
- 2. Proposed field or laboratory methods, with appropriate reference to Agency guidelines or other source;
- 3. Expected sampling locations (including detailed maps), sampling dates, and sample size;
- 4. Statistical methods to be used and data quality objectives to meet statistical significance criteria; and
- 5. Quality control procedures.

## **TASK 3: DRAFT ECOLOGICAL ASSESSMENT REPORT**

The Permittee shall prepare a Draft Ecological Assessment Report and submit three copies of the Draft Ecological Assessment Report to the U.S. EPA and the MDNR. The following outline shall be modified to account for the investigations actually undertaken at the facility.

- A. Facility characterization and identification of potential receptors (include detailed maps where appropriate).

1. Physical description of the facility;
  2. Nature and extent of contamination by medium and contaminant type; and
  3. Potentially exposed habitats and species.
- B. Selection of contaminants and ecological endpoints of concern.
1. Contaminants of concern and rationale for selection; and
  2. Ecological endpoints of concern and rationale for selection.
- C. Exposure Assessment.
1. Sources and exposure pathways of contaminants of concern;
  2. Fate and transport analysis, including possible food chain transport;
  3. Estimation of exposure point concentrations by habitat, species, and exposure scenario; and
  4. Uncertainty analysis.
- D. Toxicity Assessment.
1. Toxicological properties of contaminants of concern;
  2. Facility-specific toxicity tests--laboratory and in situ;
  3. Existing toxicity-based criteria and standards; and
  4. Uncertainty analysis.
- E. Risk Characterization.
1. Observed adverse effects in potentially exposed habitats compared to reference sites, such as (but not limited to) mortality (observed on-site or in toxicity tests), behavioral effects, presence or absence of key species, reproductive effects or altered community composition.
    - a. Analysis of contaminant concentrations in relation to observed adverse effects; and
    - b. Predicted (or observed) population-, community-, and ecosystem-level effects of observed effects.
  2. Comparison of exposure point concentrations with relevant benchmark values. Possible additive, synergistic, or antagonistic effects or contaminant mixtures should be considered.

- a. Comparison with appropriate criteria (such as ambient Water Quality Criteria) and standards (such as State Water Quality Standards); and
  - b. Comparison with contaminant levels known to cause effects from published or peer-reviewed literature. Possible population-, community-, and ecosystem-level effects should be predicted based on these comparisons.
3. Likely ecological risks associated with present and future land use scenarios.
  4. Ecological considerations in selecting remedial alternatives (including no action).
  5. Uncertainty analysis.

**TASK 4: FINAL ECOLOGICAL ASSESSMENT REPORT**

The Permittee shall modify the Draft Ecological Assessment Report to incorporate changes required in the Regional Administrator's comments and submit three copies of the Final Ecological Assessment Report to the U.S. EPA and the MDNR.

RESPONSE TO COMMENTS ON THE DRAFT  
FEDERAL HAZARDOUS WASTE MANAGEMENT PERMIT  
TO BE ISSUED TO  
DETREX CORPORATION, SOLVENTS AND ENVIRONMENTAL SERVICES DIVISION  
DETROIT, MICHIGAN  
MID 091 605 972

I. INTRODUCTION

This response is issued pursuant to 40 Code of Federal Regulations Part 124.17, which requires that any changes of draft permit conditions be specified along with the reason for the change; that all significant comments be described and responded to; and that any documents cited in the response be included in the administrative record.

The public comment period commenced on April 16, 1992, with a public notice in the Detroit News/Free Press as well as radio announcements on local radio stations WWJ and WJR. The notice and announcement requested public comments on the draft joint State and Federal permits for Detrex Corporation, Solvents and Environmental Services Division. A public hearing was held on May 21, 1992, at Cobo Hall, located in Detroit, Michigan. The public comment period ended on June 5, 1992.

No public comments were received by the United States Environmental Protection Agency (U.S. EPA).

II. DETERMINATION

Based on a full review of all relevant data provided to U.S. EPA, it has determined that this permit contains such terms and conditions necessary to protect human health and the environment. In addition, based on further review, the U.S. EPA has determined that revision to the following permit conditions and/or attachments is necessary to reflect administrative and/or typographical changes. The labeled columns identify permit conditions and/or attachments that have been changed and the changes that have been made.

Permit Condition/Attachment

Changes

- |                                       |  |
|---------------------------------------|--|
| 1. Signatory Block<br>(page 2)        | The signatory of David A. Ullrich, Director, Waste Management Division has been changed to William E. Muno, Acting Director, Waste Management Division.  |
| 2. Condition I.H.5.<br>(page 8 of 20) | Reference to Condition III.F has been changed to Condition III.G.<br><br>The first sentence of Condition I.H.5. now reads "Corrective Action reports and records as required by Conditions III.G. and VI. of this permit." |

3. Condition III.D.  
(page 11 of 20)

All references to the acronyms PEAR and DEAR have been replaced and/or deleted.

References to the acronyms PEAR and DEAR now read "Preliminary Ecological Assessment Report" and "Draft Ecological Assessment Report."

4. Condition VI.A.  
(page 18 of 20)

The submittal dates for the Description of Current Situation (Task I) and the Pre-Investigation Evaluation of Corrective Measures Technologies (Task II) has been changed from 60 days to 90 days.

The submittal dates for the RFI Task I and Task II reports now read "Within 90 days of the effective date of the permit."

5. Attachment II  
(page 11 of 12)

The Michigan Department Natural Resources (MDNR) has been added as an additional recipient of the Corrective Measure Study report.

The second sentence of the introductory paragraph of Task XI now reads "Three copies of the preliminary report shall be provided by the Permittee to the U.S. EPA and the MDNR."

6. Attachment IV  
Task 3 (page 3 of 5)

All references to the acronym DEAR has been replaced by the phrase "Draft Ecological Assessment Report." In addition, the MDNR has been added as an additional recipient of the Draft Ecological Assessment Report. Finally, the letter "a" has been inserted between the words prepare and Draft, in the first sentence of Task 3.

The first sentence of Task 3 now reads "The Permittee shall prepare a Draft Ecological Assessment Report and submit three copies of the Draft Ecological Assessment Report to the U.S. EPA and the MDNR."

7. Attachment IV  
Task 4 (page 5 of 5)

The acronym DEAR has been spelled out to read "Draft Ecological Assessment Report." In addition, the MDNR has been added as an additional recipient of the Final Ecological Assessment Report.

Task 4 now reads "The Permittee shall modify the Draft Ecological Assessment Report to incorporate changes required in the Regional Administrator's comments and submit three copies of the Final Ecological Assessment Report to the U.S. EPA and the MDNR."

JUN 29 1992

**CERTIFIED MAIL #P 664 395 436**  
**RETURN RECEIPT REQUESTED**

H-7J

Mr. Bill Moore  
Corporate Engineering & Risk Management  
Detrex Corporation  
P.O. Box 5111  
Southfield, Michigan 48086-5111

Re:

Dear Mr. Moore:

Enclosed is a copy of the Federal portion of the Recovery Act (RCRA) permit for the above-referenced permit. The permit contains both Federal permit conditions (contain conditions, which is being concurrently issued by the U.S. EPA and the State of Michigan. Unless review is requested, the Federal portion shall become effective on the date this portion of the permit and the State of Michigan are effective, Detrex Corporation, Solvents and Division, Detroit, Michigan, has an effective RCRA permit for those hazardous waste management activities specified in the permit.

The duration of the permit is five (5) years. It may be modified, revoke, reissue, or terminate this permit under 40 CFR 270.41, 270.42, and 270.43.

This permit is effective on the date indicated on the permit. Eligibility to appeal this permit is due by June 12, 1992. The original and one copy of the permit are being sent to the U.S. EPA in Washington, D.C., at the address indicated on the date of this letter:

Environmental Appeals Board (A-110)  
Office of the Administrator  
U.S. Environmental Protection Agency  
401 M Street, SW  
Room 1145 (West Tower)  
Washington, D.C. 20460

PS Form 3811, Apr. 1989

3. Art. ☒ 4. Ins. ☒ 5. Sig. ☒ 6. Sig. ☒ 7. Date of Delivery ☒

7-1-92 JUL 1

PS Form 3800, June 1990

DOMESTIC RETURN RECEIPT

PS Form 3811, Apr. 1989

U.S.G.P.O. 1989-238-815

SEI 3 a Put you from the date and che 1. ☐

P 664 395 436

**Certified Mail Receipt**

No Insurance Coverage Provided  
Do not use for International Mail  
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to  
MR. Bill Moore  
Street & No  
Detrex Corporation  
P.O. State & ZIP Code  
P.O. Box 5111, Southfield MI 48086

Postage \$2.90

Certified Fee 1.00

Special Delivery Fee

Restricted Delivery Fee

Return Receipt Showing to Whom & Date Delivered 1.00

Return Receipt Showing to Whom, Date, & Address of Delivery

TOTAL Postage & Fees \$4.90

Postmark or Date

PS Form 3800, June 1990

Section 404/405/406/407/408/409/410/411/412/413/414/415/416/417/418/419/420/421/422/423/424/425/426/427/428/429/430/431/432/433/434/435/436/437/438/439/440/441/442/443/444/445/446/447/448/449/450/451/452/453/454/455/456/457/458/459/460/461/462/463/464/465/466/467/468/469/470/471/472/473/474/475/476/477/478/479/480/481/482/483/484/485/486/487/488/489/490/491/492/493/494/495/496/497/498/499/500

#27

A copy of the petition should be also sent to:

RCRA Permitting Branch, HRP-8J  
Waste Management Division  
United States Environmental Protection Agency, Region 5  
77 W. Jackson Boulevard  
Chicago, Illinois 60604

Note: The procedures for filing an appeal are found in 40 CFR 124.19 (enclosed) as amended in Federal Register vol. 57, No. 30, page 5340. The administrative appeal procedures must be completed prior to any action seeking judicial review.

Should you have any questions in this matter, please contact Shari Kolak at (312) 886-6151.

Sincerely yours,

William E. Muno  
Acting Director  
Waste Management Division

Enclosure

cc: Ronda Hall, MDNR  
Norman Niedergang, OR  
Karl Bremer, RPB  
Joe Cooley, ORC  
Rich Traub, RPB  
Shari Kolak, RPB  
File



2

A copy of the petition should be also sent to:

Shari Kolak  
RCRA Permitting Branch, HRP-8J  
Waste Management Division  
U.S. EPA, Region V  
77 W. Jackson Boulevard  
Chicago, Illinois 60604

The administrative appeal procedures must be completed prior to any action seeking judicial review.

Sincerely yours,

William E. Muno  
Acting Director  
Waste Management Division

Enclosure

cc: Ronda Hall, MDNR  
Norman Niedergang, OR  
Karl Bremer, RPB  
Joe Cooley, ORC  
Rich Traub, RPB  
Shari Kolak, RPB  
File

WMD/OR/RPB/MI SECTION/slk/SLK/6-22-92/BOILERPLATE DISK/FINAL.LTR

NL 6/22

28/26/92

SIGNATURE/INITIAL CONCURRENCE REQUESTED - RCRA PERMITTING BRANCH (RPB)										
TYPIS	AUTH.	ILS CHIEF	INS CHIEF	MIS CHIEF	MN/WI CHIEF	OHS CHIEF	SWS CHIEF	RPB CHIEF	RCRA ASOC.DR	WASTE MGMT. DIV.DIRECTOR
	SLK 6/22/92			SLK 6/23/92				SLK 6/26/92	SLK 6/26/92	WEM 6/29/92

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION

THOMAS J. ANDERSON  
MARLENE J. FLUHARTY  
GORDON E. GUYER  
KERRY KAMMER  
ELLWOOD A. MATTSON  
O. STEWART MYERS  
RAYMOND POUPORE



John Engler

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING  
P.O. BOX 30028  
LANSING, MI 48909

DAVID F. HALES, Director

March 26, 1991

CERTIFIED MAIL

Mr. Bill Moore  
Corporate Engineering & Risk Management  
Detrex Corporation  
P.O. Box 5111  
Southfield, Michigan 48086-5111

Dear Mr. Moore:

SUBJECT: Notice of Deficiency/Letter of Warning  
Act 64 Operating License Application  
Detrex Corporation, MID 091 605 972

The Waste Management Division has completed a technical review of the hazardous waste container and tank storage Act 64 operating license application submitted August 15, 1988, including the subsequent revisions that were submitted.

A list of the application deficiencies is enclosed. The revisions correcting the deficiencies must be submitted to the Chief of the Waste Management Division by May 24, 1991. Failure to submit a technically adequate operating license application is grounds for denial of the application pursuant to R 299.9518(2)(c) and for termination of interim status pursuant to 40 CFR §270.10(e)(5). A meeting to discuss the deficiencies will be arranged at your request.

When submitting revisions, please either submit a new application or use the replacement page format. It is recommended that Detrex consider submitting a new application due to the number of revisions needed. If Detrex chooses to use the replacement page format, pages should be three-hole punched and numbered correctly so that they can be placed directly into existing binders. Regardless of the format

#2



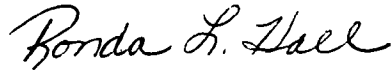
Mr. Bill Moore

-2-

March 26, 1991

used, ten copies of the revisions must be submitted. If you have any questions, please contact me.

Sincerely,



Ronda L. Hall  
Environmental Engineer  
Waste Management Division  
517-373-9548

Enclosures

cc/enc: Mr. Ronald C. Hritzkowin, Detrex Corporation  
Ms. Lorraine Kosik, U.S. EPA  
✓ Mr. Richard Traub, U.S. EPA  
Mr. Steve Buda, DNR  
Mr. Don Mbamah, DNR-Livonia  
Ms. Nadine Romero, DNR  
Operating License File

NOTICE OF DEFICIENCY

Act 64 Operating License Application  
Technical Review

Detrex Corporation  
12886 Eaton Avenue  
Detroit, Michigan 48227

MID 091 605 972

March 1991

The Michigan Department of Natural Resources, Waste Management Division (WMD), has completed a technical review of the Act 64 operating license application originally submitted by Detrex Corporation (Detrex) on August 15, 1988. A list of the application deficiencies is provided below. The list is divided into general application deficiencies affecting more than one section of the application and issue specific deficiencies.

I. General Application Deficiencies

- A. In general, some of the information contained in the application is outdated and needs to be updated to reflect current operations and personnel. Specific deficiencies are provided below for some of the information. However, Detrex should review the application in its entirety to ensure that it contains accurate and up-to-date information.
- B. In conducting the review, the WMD evaluated the regulatory status of the two facility feed tanks. Review of the process information contained in the application indicates that the subject tanks are operated as feed tanks for the distillation units. However, since no treatment or recycling takes place in the tanks, and solvent waste often remains in the tanks when the distillation units are not in use, the tanks are regulated as hazardous waste storage tanks. Regulated as hazardous waste storage tanks, the tanks must be listed on the operating license application form and the appropriate information for the tanks provided in the operating license application. This includes, but is not limited to, process information, engineering plans for the tanks and appurtenances,

inspection schedules, and closure plans. R 299.9107, R 299.9502.

Review of the information contained in the WMD facility files and the tank history document submitted by Detrex on April 18, 1989, indicates that facility has historically had both container and tank storage. The container and tank storage capacity has fluctuated in the past. The WMD, in conducting its reviewing, evaluated the information contained on the Part A Forms that Detrex had submitted and the actual capacities that were used at the facility with respect to the lifting of the exemption for storage associated with recycle in September of 1985. Based on that review, the WMD has determined that Detrex currently has an authorized container storage process design capacity of 8,250 gallons and tank storage process design capacity of 5,500 gallons. This storage process design capacities are discussed further in Deficiency II.A.5 below.

Detrex must revise the applicable portions of its application to accurately reflect the status of the facility.

## II. Section Specific Deficiencies

### A. Section A - Act 64 Operating License Application, R 299.9508(1)(a)

1. Page A-3 contains an incorrect rule citation. The rule citation R 299.9504(1) must be changed to R 299.9508(1) to reflect the fact that this application is for an operating license not a construction permit.
2. The operating license application form and the application must be revised to reflect the registered name of the facility, Detrex Corporation, Solvents Division. According to information provided by Detrex staff during a November 27, 1990, site visit and meeting, Gold Shield Solvents was never a registered name.
3. The operating license application form and the application must be revised to reflect the current facility contact information.

4. Section X of the operating license application form must reference the permits contained in the Attachment A-4 of the application.
5. As stated above in Deficiency I.B, the two feed tanks are regulated as hazardous waste storage tanks and must be addressed in the operating license application. Detrex is authorized for 8,250 gallons container storage capacity (S01) and 5,500 gallons tank storage capacity (S02) for a total storage capacity of 13,750 gallons. The operating license application form indicates that the facility has container storage only. Since it is the company's intent to continue to use the storage tanks and it has interim status for the tanks, the operating license application form must be revised to reflect the authorized S01 and S02 process design capacities. Detrex may re-proportion its container and tank capacity as long as the total storage capacity does not exceed 13,750 gallons. However, such changes must be approved by the WMD.
6. The T04 process design capacity should be deleted from the operating license application form as it represents the combined capacities of the distillation units which are exempt from regulation under Act 64.
7. The operating license application form must be revised to include the Toxicity Characteristic Leaching Procedure (TCLP) wastes Detrex included in the revised Part A, Form 3, dated October 16, 1990, that it submitted to the U.S. Environmental Protection Agency (U.S. EPA), Region 5.
8. Section IV of the operating license application form must be revised such that it contains the appropriate process codes for each type of waste.
9. The facility map contained in the application is out-of-date and does not reflect current operations. It must be revised to show the current location of all tanks, structures, the hazardous waste container storage unit, product areas, etc. The transfer facility should also be clearly labelled. In addition, a key explaining the tank numbering system and the tanks'

uses/functions must accompany the map. All of the maps contained in the application must be replaced with the revised map as appropriate.

10. The caption under the photograph of the internal view of the building from the north end must be revised to state that the hazardous waste container storage area is on the left not the right. Additionally, picture of the hazardous waste storage tanks must be included in the operating license application form.
11. Detrex must include updated copies of any permits it may have from Wayne County, Department of Public Health, Air Pollution Control Division.  
R 299.9508(1)(f)
12. Certificate of Operation APC 5-02474 suggests that the two feed tanks are for F001. However, information provided in the application identifies one as a F001 feed tank and one as a F002 feed tank. Detrex must address this discrepancy.  
R 299.9508(1)(f)
13. It is not clear if the document that addresses the Dyna-500 (DCI) distillation unit and is contained in Attachment A-4, represents an approved permit or simply an application for a permit.  
R 299.9508 (1)(f)

**B. Section B - Facility Description, R 299.9508(1)(b), 40 CFR §§270.14(b)(1), (10), (11), and (19)**

1. The facility description provided in Section B-1, page B-5 of the application must be revised to reflect the fact the facility has both container and tank storage. Items 10 and 12 in Section B-2 must also be revised to accurately reflect the status of the facility.
2. The principal contact person for the application must be revised accordingly.
3. Item 11 in Section B-2, page B-9 indicates that runoff along a portion of the east wall is directed to a twelve inch diameter, six inch deep sump. Detrex further states that the sump is pumped as required and discharged to the gravel yard to the

northeast to drain away from the facility. The location of the sump and other controls in this area must be clearly shown on the facility map. Table B-1 must be revised accordingly. It appears that the sump is located within the confines of the transfer facility that Detrex operates at the facility. Thus, the potential exists for the runoff to be mixed with hazardous constituents.

Detrex must cease discharging material collected in the sump to the gravel yard. Such action requires a permit. For more information regarding the permit requirements, please contact Mr. Scott Ross, Groundwater Permits Section, Waste Management Division, at 517-335-3385.

Given the permit implications, it is strongly recommended that Detrex find an alternate method of managing the material collected in the sump. Detrex must provide an explanation of how it intends to manage the material, including characterization and disposal.

4. Section B-4 must be revised. It fails to provide a description of the vehicular traffic or how bulk shipments of waste are handled.

Attachment B-8 is not adequate. It must be revised to include the whole facility and the local roads. The local and internal roads, parking areas, loading/unloading areas, and traffic patterns must be clearly identified on the diagram.

**C. Section C - Waste Characteristics, R 299.9508(1)(b), 40 CFR §§270.14 (b)(2) and (3)**

1. Section C must be revised to reflect the fact that Detrex has both container and tank storage.
2. The information provided in Section C and the attachments to Section C must be revised to incorporate the information relating to the TCLP wastes that Detrex handles. This includes, but is not limited to, the inclusion of waste evaluation forms for the TCLP waste streams and revising the information provided in Table C-1.



3. The T04 process code should be deleted from Table C-1 since, as discussed in Deficiency II.A.6, it is not an appropriate waste code for this facility.
4. The application must indicate that the waste analysis plan will be kept at the facility at all times.
5. The facility description provided in the waste analysis plan is not entirely consistent with the description provided in Section C, page C-4. The description provided in the waste analysis plan must be expanded to include all of the information provided on page C-4. The description must indicate that Detrex is both a container and tank storage facility receiving incoming waste in both drums and bulk shipments.
6. The waste analysis plan must identify all wastes that Detrex accepts. In addition, it must clearly identify the properties of the wastes that are pertinent to the process. A description of the process tolerance limits must also be included in the waste analysis plan. Identification of the wastes that Detrex can accept and the waste characteristic limitations are very important.
7. There are two types of waste analysis that must be conducted - waste characterization (both new and existing customers) and waste screening (all customers). The waste analysis plan fails to adequately describe and differentiate between the two types of waste analysis.
  - a. The waste analysis plan must identify the parameters and rationale for the selection of these parameters for both waste characterization and waste screening purposes. Information contained in sections 2.0, 2.1, 2.2, and 4.4 of Attachment C-3, should be included in the waste analysis plan. Detrex must explain how analysis of these parameters will provide sufficient information on the wastes' properties to allow it to store and recycle the waste.

For waste characterization purposes, in addition to the parameters listed in Table C-2, the waste must be analyzed for all additional parameters

that Detrex determines are necessary to ensure that the waste has been properly characterized and may be accepted to its facility. The note at the bottom of Table C-2 is not sufficient. Reactivity analysis must be conducted as part of the waste characterization process to ensure that Detrex does not accept reactive waste. Simply stating that it will not accept such waste is not acceptable.

For waste screening purposes, it may not be necessary to perform such a comprehensive analysis. However, at a minimum, screening of the waste must include visual inspection, flash point analysis, compatibility testing, solvent content analysis, and principle volatile organic compounds. The waste analysis plan must provide an explanation of the compatibility testing procedure.

The waste analysis plan must be revised to include separate tables for the waste characterization parameters and rationale, and the waste screening parameters and rationale.

- b. Section C-2a suggests that a flash point test is conducted on the waste "as necessary depending on results of initial volatile analysis." This needs further clarification. If Detrex cannot accept ignitable wastes, the flash point test must be included in the list of parameters provided in the waste analysis plan.
  - c. Review of the laboratory reports provided in Attachment C-2 indicates that the waste samples are analyzed for more than the parameters identified in Table C-2. Detrex must address this issue.
8. The waste analysis plan must be a document capable of standing on its own. As such, it cannot reference other sections or attachments in the application. Review of the information provided in the waste analysis plan, and Attachment C-3, the quality assurance project plan, indicates that much of the information in the quality assurance project plan must be extracted from the plan and included in the waste analysis plan. Specific deficiencies

relating to this issue are discussed below in conjunction with other deficiencies.

9. As stated in Deficiency II.C.8, information regarding the test methods used to analyze the waste (characterization and screening both) must be included in the waste analysis plan. The quality assurance project plan cannot be referenced.

Section C-2b of the waste analysis plan and Section 8.0 of the quality assurance project plan state that the methods used for solvent content analysis and specific halogenated compound analyses are not U.S. EPA approved methods but modifications of U.S. EPA methods developed by Detrex itself. An explanation as to what the test modifications are as well as why they are necessary to characterize the waste must be provided.

10. Information regarding the methods used to sample the waste (both characterization and screening) received in drums and bulk shipments must be included in the waste analysis plan. The quality assurance project plan cannot be referenced.

Section 5.3.2 of the quality assurance project plan suggests that composites of concentrated waste samples may be used to determine the average characteristics of a drum lot. Please clarify the sampling procedures for screening wastes. Specifically, the qualification "10 drums maximum" in Section 5.3.2 of the quality assurance project plan must be explained. Detrex must specify if this refers to a limit on the number of drums that will be sampled per waste code, per generator, or if a composite sample will be prepared for each set of 10 drums per waste code, per generator. Compositing samples is not acceptable for flash point analysis. Detrex must explain how flash point analysis will be conducted. The statistical basis for choosing the drums to sample per generator per waste type must be specified in the waste analysis plan.

Information that must be included in the waste analysis plan regarding bulk shipments includes, but is not limited to, sampling method reference(s) (if appropriate), sampling equipment description,

statistically representative sampling technique(s) description, and rationale for sampling strategy selected.

11. Section 6.0 of the quality assurance project plan indicates that a formal chain-of-custody document was under development at the time of application submittal. A copy of the final document must be included in the application.
12. The application must state that Detrex will comply with the quality assurance/quality control (QA/QC) procedures outlined in chapter 1 of "Test Methods for Evaluating Solid Waste", SW-846, November 1986, Third Edition, U.S. EPA.
13. The waste analysis plan must address the frequency on which waste streams will be re-characterized to ensure that the analysis is accurate and up to date. The waste analysis plan must state that each waste stream will be re-characterized annually at a minimum. In addition, the waste analysis plan must state that the waste stream will be re-characterized when Detrex is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and when the results of waste shipment inspections indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest. The waste analysis plan must contain a statement indicating that Detrex has implemented procedures to have generators notify it when their process(es) change.
14. Detrex should clarify whether all of the waste characterization is performed by its laboratories or if some information is provided by the generators. Pursuant to 40 CFR §264.13(b)(5), if the later is true, the waste analysis plan must clearly reflect this and explain how Detrex ensures that the generators are properly analyzing the waste.

Detrex must clarify who conducts all analyses and where the analyses are performed (both waste characterization and waste screening. If fact all screening is not done on-site, then if Detrex off-loads the waste and signs the manifest it is not

able to reject the waste. Detrex would then be responsible for subsequent management of the waste. Section C-2e of waste analysis plan must be revised accordingly. This section pertains to generators from which Detrex receives waste not to waste generated by Detrex.

15. The procedures for screening the waste once it arrives at the facility must be clarified and revised. The waste analysis plan must specify the procedures used to review the waste shipment's manifest, to inspect the waste visually, to sample the waste, to analyze the waste, and to reject the waste if it is not acceptable.
  - a. The waste analysis plan must state that Detrex is receiving and reviewing the appropriate notification certificates from generators regarding the land disposal restrictions.
  - b. Section C-2d(2) indicates that the drums are visually inspected upon receipt at the facility for abnormal solid content, an unusual odor, or an aqueous solution rather than an oil solvent mixture. The waste analysis plan must include an explanation of how this information is recorded. A copy of the form must be included in the waste analysis plan. Additionally, color must be added to the list of parameters evaluated as part of the visual inspection.
  - c. Information contained in the waste analysis plan and quality assurance project plan indicates that the waste is analyzed for specific gravity at the facility to determine the solvent content. However, information contained in Section 10.0 of the quality assurance project plan suggests that the results of the specific gravity field tests are not reported. Since the acceptance of the waste is dependent in part on the solvent content of the waste, the results of the field specific gravity determination must be reported. Detrex must specify how this information will be reported.
  - d. Information provided in Sections 2.0 and 2.1 of the quality assurance project plan suggests that, for waste screening purposes, each

shipment of waste is visually inspected, analyzed for specific gravity in the field, and further analyzed for stabilizer components content, percent non-volatile residue (NVR), and target compounds. The waste analysis plan fails to address stabilizer components content, percent NVR, and specific target compounds. The waste analysis plan must be revised to address these items. The rationale for these parameters and the test methods must be explained. The term "stabilizer components" must be defined.

Additionally, Detrex must include methylene chloride in its list of target compounds for waste screening. It is a major constituent of the F001 and F002 wastes accepted at the facility.

- e. Detrex must include in the waste analysis plan an explanation of the rejection procedures if it is determined that a waste proves unacceptable due to manifest review, visual inspection, field analysis, and/or laboratory analysis. A copy of the WMD rejected load procedures is enclosed for your assistance.
- f. Detrex must explain how the drums for which the laboratory analytical results have not yet been received are segregated from those drums that are ready for processing.

- 16. Detrex must provide an explanation of the method detection limits provided in Section 2.1 of the quality assurance project plan. It must explain what the limits are based on and why they are expressed as percentages instead of parts per billion or million. Additionally, the detection limits are higher than those typically achieved for waste analysis. Detrex must justify the use of high detection limits.

**D. Section D - Process Information, R 299.9508(1)(b), R 299.9504(1)(g), R 299.9504(2), and R 299.9504(3)**

- 1. This section must be revised to reflect Detrex's status as a tank storage facility, in addition to a container storage facility. Pursuant to

R 299.9504(3), the application must include the information required by the provisions of 40 CFR §270.16. This includes, but is not limited to, information regarding the dimensions and capacity of each tank, a description of the feed systems and pressure controls, a diagram of the piping and instrumentation, a description of the secondary containment (waste migration prevention measures, and leak detection and collection), and a description of spill and overflow prevention measures.

2. The "Detrex Corporation, Atmospheric Storage Tank Certification Document", dated January 22, 1990, was reviewed in conjunction with the operating license application even though it was not formally included in the application. The deficiencies noted in the tank assessment/certification document are provided below. Please be advised that, in the future, if information is to be included in the operating license application, it must be formally submitted to the Hazardous Waste Permits Section, Waste Management Division, office.
  - a. The introduction section of the document indicates that Detrex utilizes three tanks for storage of hazardous waste. Based on information received to date, it appears that Detrex has only two hazardous waste storage tanks, numbers 12 and 22. Detrex must address this issue.
  - b. It appears that tanks number 12, 17, and 22 are addressed in the document. However, the document does not contain specific number references to verify this. The document must be revised to include number references for each tank addressed.
  - c. Detrex must explain why a tank assessment was not conducted for tank number 23.
  - d. The document indicates that a "quick visual inspection" of a 1,400 gallon horizontal tank used to store water that was drawn off the three tanks addressed in the document was performed at the request of Detrex. The subject tank was approximately 25 years old according to the

document. Detrex must provide a reference number for this tank.

- e. The May 11, 1990, cover letter provided with the document indicates that since the 1,500 gallon F002 tank could not be inspected and certified, Detrex planned to remove it from service and replace it with a tank which will be certified prior to use. Detrex must provide a reference number for the 1,500 gallon F002 tank. Detrex must also provide a copy of the tank assessment and certification for its replacement.
- f. As a result of the tank assessment conducted, it was determined that the tank base supports for the "F001 and F001/F002 vertical tanks" do not provide adequate support for the tanks' base plates. It was also determined that the saddle spacing and angle of contact for the "F002 horizontal tank" did not meet tank industry standards. Based on these determinations, the firm conducting these assessments would not certify the tanks until these concerns were properly addressed and checked in the field. The May 11, 1990, letter to Detrex from Randers Engineering, Inc., indicates that the concerns were addressed and that the tanks were now certified for use. Detrex must specifically explain how these concerns were addressed and describe the tank system modifications. Adequate information was not provided in the application or tank assessment document to evaluate the compliance status of the subject tanks.
- g. Pursuant to 40 CFR §264.191(b)(2), tank assessments must address the hazardous characteristics of the wastes that have and will be handled. The document provided fails to address methylene chloride, a major constituent of the waste handled according to Section C of the application, and the TCLP waste constituents.
- h. The tank drawings contained in Appendix D of the tank assessment document are not approved.



- i. The certification provided by the independent, registered professional engineer is not acceptable. In accordance with 40 CFR §264.191(5)(ii), it must specifically address the integrity of the tanks, and cracks, leaks, corrosion, and erosion. It must be supplemented by the language contained in 40 CFR §270.11(d).
3. Information provided on page D-4 indicates that upon receipt, all drums are properly labelled and transferred to the container storage unit. Detrex must explain the basis for conducting the referenced labelling. The incoming drums should already be provided with labels.
4. The application must provide a more detailed description of the procedures regarding bulk shipments. Information regarding the unloading procedures such as tanker truck location during unloading, and transfer lines must be included.
5. Section D-1a(1) must include a statement indicating that should a drum incur a breach of integrity, the contents thereof will be transferred to a container in good condition.
6. A typographical error was noted in Section D-1a(1) on page D-6 and must be corrected. The word trichlorotrifluoroethene must be changed to trichlorotrifluoroethane.
7. Detrex must describe what type of special liners are placed in the containers used to store fluoronated wastes.
8. Since the fluoronated wastes, if spilled, could jeopardize the steel drums used to store the chlorinated wastes, Detrex must explain how the two types of waste are segregated.
9. As stated in Deficiency II.A.5 above, Detrex has both container and tank storage units. The application must be revised to reflect the appropriate container and tank storage process design capacities.
10. The application must include a diagram clearly denoting the location of the rows of drums of

hazardous waste in the container storage unit. Additionally, Detrex must quantify the aisle space maintained in the container storage unit.

11. The application indicates that if necessary, Detrex will stack drums up to three layers high. Such a practice is unacceptable for safety and inspection reasons. The drums may only be stacked two high using a device such as a pallet to provide stability. The application must be revised accordingly.
12. Review of this section indicates that no marking exists to clearly define the extent of the hazardous waste storage unit. To ensure that all waste is stored within the unit, the unit must be defined using lines painted on the floor (indicating outer boundary of unit and rows contained within the unit), curbing, etc.
13. The application fails to address how the containers are kept from contact with standing liquids in the unit. As stated in 40 CFR §264.175(b)(2), the base of the container storage unit must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks and spills, unless the containers are elevated, or are otherwise protected from contact with accumulated liquids. Detrex must address this issue.
14. The application must include an explanation of the timeframe in which liquids accumulated in the container storage unit would be collected and how the collected liquids would be subsequently analyzed and characterized.
15. Several items were noted during the review of Section D-1a(3)(a) and Attachment D-1.
  - a. As stated in Deficiency II.A.9, the facility map provided in Attachment D-1 must be updated.
  - b. The engineering plans provided of the facility in the application are out-of-date and thus inadequate. Current, accurate engineering plans of all process equipment and secondary containment structures at the facility must be

included in the application. This includes the tank and container storage units as well as the truck unloading/loading dock and bay. The secondary containment structures such as curbing, dikes, and ramps must be clearly shown on the engineering plans in addition to separate sections showing specific details. The engineering plans must be prepared and sealed by a registered, professional engineer. The engineering plans must include:

1. sufficient views, elevations, sections, and layouts to define the equipment and process;
  2. specifications on all construction materials and installation methods;
  3. basis of design for all process equipment and containment structures;
  4. flow diagram of the entire treatment, storage, or disposal process (see Deficiency 16 below); and
  5. the design capacity of each process.
- c. Review of the engineering plans indicates that the reclamation operation was previously located in the southern half of the building on the west side of the main building. Detrex must explain where the hazardous waste was stored at the time the reclamation operation was located there.
- d. The application indicates that no floor drains or other such openings in the secondary containment area exist. However, the plans of the "new Gold Shield reclamation addition" indicate that a floor drain exists near the center of the main building. Detrex must address this issue.
- e. The first paragraph of Section D-1a(3)(a) indicates that an engineering certification of the plans is provided in Attachment D-1 while the second paragraph of Section D-1a(3)(a) indicates that an engineering certification of the container storage area, pursuant to R 299.9508(1)(d), is not provided at this time.

It appears that some confusion exists regarding the required certifications. The engineering plans must be prepared and sealed by a registered, professional engineer as noted above in Deficiency II.D.15.b. The certification referenced in R 299.9508(1)(d) is for certification of the facility's capability to manage hazardous waste. It is not specific to the engineering plans.

16. Sections D-2 to D-7 must be deleted from the application.
17. The information provided in Attachments D-2 and D-3 must be updated.
  - a. The list of "process equipment" must be revised to reflect tanks' 12 and 22 status as storage tanks.
  - b. The status of the wiped film evaporator must be addressed. The wiped film must be included in the process flow diagram as appropriate.
  - c. The process flow diagram must be revised to indicate that tank 10 has been replaced by two individual tanks.
  - d. During the November 27, 1990, site visit, an additional tank was located in the area where tank 17 is located on the facility map currently provided in the application. At that time, Detrex staff indicated that the tank received recycled solvent like tank 20. This tank must be included in the process flow diagram.
18. Information regarding the secondary containment capacity was reviewed to the extent possible without adequate engineering plans containing the necessary information such as floor, curbing, and ramp dimensions and elevations.

Detrex must address the containment capacity available as well as the containment capacity needed. A diagram clearly showing areas "Part 1 - Part 14" that were used in calculating the containment capacity must be provided.

In determining the containment capacity needed, Detrex must take into account the volume of both product and waste housed inside of the building. This is necessary since the tank and container storage areas are not segregated from the product storage area (worse case scenario is that all hazardous waste as well as product primary containment would fail at the same time). Detrex must supply calculations regarding the containment capacity needed. It must provide for both hazardous waste and product (containers - 10 percent and tanks - 100 percent).

19. Review of the information regarding the secondary containment structure for the tank and container storage units indicates that the pad is not provided with a chemically and abrasion resistant coating. Pursuant to 40 CFR §264.175(b)(1), the base of the secondary containment system must be free of cracks or gaps and sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed. Uncoated concrete is not sufficiently impervious to adequately contain solvent wastes. The containment system must be provided with an impermeable interior coating or lining that is compatible with the hazardous wastes stored at the facility, and is abrasion resistant.

**E. Section E - Environmental Monitoring Program,**  
**R 299.9508(1)(b), R 299.9611**

1. This section of the application must be revised to reflect the facility's status as a container and tank storage facility.
2. Section E-2 suggests that the program addressing the expansion joints and any cracks inside the building has been completed while information provided in Section D of the application suggests that the program has not yet been initiated. Detrex must address this discrepancy.
3. Sections E-2 and E-3 must be revised to indicate that Detrex does accept bulk shipments of waste.

4. The application contains requests for waivers of the groundwater and annual soil monitoring requirements under the provisions of R 299.9611(3) and (4), respectively. Based on a review of the hydrogeological report, the waiver requests, and the information provided in Attachment E-2, it appears that the groundwater and annual soil monitoring requirements may be waived if the unloading/loading dock is secondarily contained in accordance with a design approved by the WMD and Deficiencies 5 and 6 below are satisfactorily addressed.

Several issues regarding proper secondary containment warrant attention.

- a. Information provided in Section E-3 and Attachment E-2 suggests that Detrex was going to upgrade the unloading/loading dock area. However, it is not clear if these modifications have been completed. If they have been completed, they must be clearly shown on the engineering plans required in the application.
- b. It does not appear that the secondary containment design illustrated in Attachment E-2 is acceptable. The design must provide for containment of 100 percent of the largest tanker truck unloading/loading in the dock or 10 percent of the largest shipment of containers received by the facility at one time, whichever is larger, and precipitation from a 24-hour, 100-year rainfall event. Additional considerations include squirt protection to guard against material being released into the transfer facility on-site either by a spill or runoff, proper drainage of the released material, proper sealing of the secondary containment system, and segregation of the unloading/loading area and the transfer facility.

Detrex must submit a work plan to upgrade the containment system in the unloading/loading area. This item is further addressed in Deficiency II.O.

5. It is not clear from the hydrogeologic report why additional split spoon samples were not analyzed for grain size distribution and classified under the unified soil classification system. Boring logs are missing information from the grain size analysis results. For example, boring BH2-89 denotes "sandy" giving inference to some sand in the clay from 33 to 36 feet, however, grain size analysis shows this unit is a silty sand (SM) and not a silty clay. Boring log BH3-89 also does not appropriately record a silty sand (SM) at the 33 to 36 feet interval. Additionally, there are no grain size analyses for the clay (CL) classification as cited on the boring logs. Detrex must address these issues in accordance with R 299.9506(2)(a)(ii).
6. The hydrogeological report lacks a topographic map delineating the waste management areas and the boring and well locations as specified in R 299.9506(1)(e).

F. Section F - Procedures to Prevent Hazards.  
R 299.9508(1)(b), 40 CFR §§270.14(b)(4), (5), (6),  
(8), and (9)

1. Section F-2 must be revised to include the hazardous waste storage tanks. 40 CFR §§264.174, 264.193, and 264.195
2. Section F-2a must be expanded to provide a better description of the general inspection procedures. It currently only addresses the container storage unit. It must briefly address the container storage unit, the tank storage area, the unloading/loading area, monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment. The typical types of problems that may be encountered along with the likely remedies must be noted.
3. The facility map in Attachment F-1 must be revised in accordance with Deficiency II.A.9.
4. The inspection schedule provided in Attachment F-2 must be revised as follows:

- a. The storage tanks and related piping and secondary containment must be added to the schedule. The types of problems and frequency of inspection for these units must be identified. 40 CFR §§264.174, 264.193, and 264.195
- b. The inspection schedule must clearly distinguish between the secondary containment inside the building and the unloading/loading area.

The sealant on the secondary containment system must be inspected to the extent possible. Additionally, the secondary containment system must be inspected on a daily not biweekly basis.

The unloading/loading area must be added to the schedule. The type of problems to be inspected for in this area must be identified in the schedule. The area must be inspected on a daily basis when in use.

- c. The transfer lines and related pumps must be added to the inspection schedule. The types of problems that may be encountered as well as the frequency of inspection must be specified.
- d. The fencing, gates, and perimeter signs must be added to the inspection schedule. The types of problems to be inspected for must be identified along with the frequency of inspection.
- e. The electronic surveillance system must also be added to the inspection schedule. The types of problems to be inspected for must be identified along with the frequency of inspection.
- f. The inspection forms must be revised in accordance with the deficiencies noted above. In addition, the inspection forms must be revised to include columns for indicating if a problem existed (yes or no), the repairs/remedial actions required, the date the repairs/remedial actions were completed, and the time of the inspection. The date of the inspection must be added to the daily inspection record. An example inspection form is enclosed for your use.



5. Section F-4 must be revised to include pertinent information regarding the storage tanks.
6. Section F-4a must address the preventative procedures, structures, and equipment associated with the management of bulk shipments of waste.
7. Attachment F-4 must be revised to reflect the current operations at the facility. Additionally, the safety shower and respirators must be located on diagram. They appear in the legend but not on the diagram itself.

**G. Section G - Contingency Plan, R 299.9508(1)(b),  
40 CFR §270.14(b)(7)**

1. This section must be revised to include appropriate information regarding the storage tanks. Section G-4h is not correct and must be changed.
2. The facility description provided on page G-5 should reference the specific waste codes that Detrex handles. Additionally, the facility description must identify the number of employees on-site at a given time to allow appropriate authorities to ensure that all employees are evacuated as necessary.
3. To assist the authorities that may respond to an emergency, Detrex must include, as an attachment to the contingency plan, copies of the material safety data sheets for all of the materials that are handled at the facility.
4. Table G-1 must be revised as appropriate.
5. Table G-2 must be revised as appropriate. Additionally, the state response authority must be identified as the Michigan Department of Natural Resources, not the state EPA.
6. Item B.1, Section G-3 must identify a release from a bulk shipment as a potential source of a major spill in addition to a release from several containers.

7. Section G-4 must identify the command post location.
8. Review of the information provided in Section G-4 suggests that the emergency coordinator will fully determine the origin, location, nature, and extent of the problem prior to activating the appropriate alarms or communication systems and notifying appropriate authorities. In an emergency situation, it may not be possible or advisable to fully characterize the problem prior to activating alarms and communication systems, and notifying the appropriate authorities. The contingency plan must reflect this.
9. The information contained under the heading "specific assessment of possible hazards to human health or the environment" is misleading and inaccurate and must be deleted. All three of the situations identified may in fact present a potential hazard to human health. Additionally, situation two presents a potential hazard to the environment. The environment is not limited to drains and aquifers used for human consumption. Such broad statements as those contained under this heading cannot be made.
10. In situations where evacuation of the local areas is deemed necessary, it may be necessary to seek assistance from the fire and police departments as well as other authorities. The reporting information contained on page G-12 suggests that only the fire department would be contacted.

Additionally, in accordance with 40 CFR §264.56(d)(2), the National Response Center must be identified as an authority that will be notified in the event that a potential threat to human health and the environment outside of the facility exists.

11. Section G-4b(1) indicates that in the event of a fire/explosion the fire department will be notified if it is major. The contingency plan must state that other authorities will be notified as necessary.

12. Similar to Section G-4b(1), Sections G-4b(2) and (3) must indicate the authorities that would likely be contacted in these situations.
13. Sections G-4i to G-4m must be deleted from the contingency.
14. The list of emergency equipment provided on page G-18 must be revised to include any decontamination equipment maintained on-site that may be used. Additionally, the list must include a description of all of the equipment and its capabilities pursuant to 40 CFR §264.52(e).
15. Attachments G-1 and G-2 must be revised to reflect the current operations at the facility. For contingency plan purposes, the facility diagram must clearly identify the location of all materials (hazardous waste, product, laboratory chemicals, etc.) that could have an impact on how an emergency response is conducted.
16. All emergency equipment must be located on the Attachment G-2. The safety shower and respirators are noted in the legend but not on the diagram itself. The locations of the fire hydrants and personal protection equipment must be clearly noted on the diagram.
17. Copies of the revised contingency plan must be supplied to the appropriate authorities. Copies of the coordination agreements must be included in the application.
18. The evacuation plan must include a facility diagram clearly denoting the primary evacuation route and any alternate routes. Additionally, the location in which the employees are to meet after evacuating the building must be noted on the diagram. An example diagram is provided for your use.
19. As specified in 40 CFR §264.56(j), Section G-8 of the contingency plan must state that Detrex will note in the operating record the time, date, and details of any incident that requires implementing the contingency plan.

H. Personnel Training - R 299.9508(1)(b),  
40 CFR §270.14(b)(12)

1. Pursuant to 40 CFR §264.16(d)(1), the application must include a list of each position at the facility related to hazardous waste management, and the name of the employee filling each position.
2. Section H-1d must be revised to state that both the warehouseman/reclamation operator and the truck operators are trained on the contents of the contingency plan.
3. The job descriptions provided in Attachment H-1 must clearly identify the requisite skills, education, other qualifications, and duties at the facility. These items should appear as headings on each job description and the specific requirements listed. An example job description is enclosed.
4. The branch manager job description indicates that he is responsible for supervision of the facility inspection reports. However, none of the job descriptions provided in Attachment H-1 identify who is responsible for actually conducting the inspections.
5. Review of the training program indicates that maintenance is performed by hourly employees trained to properly handle hazardous wastes. A general job description for maintenance employees along with other employees that may assist in hazardous waste activities must be provided.
6. Section H-1d indicates that the contents of the training program, contained in Attachment H-2, are tailored to each position. However, the training program content outlined in item 2, Attachment H-2, fails to address materials handling, the process equipment, sampling techniques, inspection protocol, or recordkeeping procedures. Additionally, the training program does not specifically address procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment; key parameters for automatic waste feed cut-off systems; or shutdown of operations.

**I. Closure and Post-Closure Plan - R 299.9508(1)(b) and (e), 40 CFR §270.14(13)-(18)**

1. The closure plan must be revised to include the appropriate information relating to closure of the two hazardous waste storage tanks, the transfer lines used to charge waste to the storage tanks, the tank storage unit secondary containment system, and the unloading/loading area.
2. The closure plan must include a brief facility description addressing such items as the general facility operations, the types of hazardous waste management units, and the all types of hazardous wastes managed at the facility.
3. A rule citation error was noted in the second paragraph on page I-4. Rule 299.9702(12) does not exist. The correct rule citation must be included.
4. The closure plan must include a list of the items to be included in the closure certification. Additionally, the closure plan must state that the closure certification statements will be supplemented by the language contained in 40 CFR §270.11(d) in accordance with §270.11(b).
5. Detrex must ensure that an accurate figure for the maximum inventory of waste is included in the closure plan. Currently, the closure plan indicates that the expected maximum inventory of waste is 12,700 gallons or approximately 231 x 55 gallon drums. The closure plan must include the appropriate maximum waste inventory for both the container and tank storage units. See Deficiencies I.B and II.A.5.
6. Table I-1 must be revised to include the TCLP wastes that Detrex manages.
7. The secondary containment systems for both the container and tank storage units must be properly decontaminated. Detrex must provide a diagram that clearly delineates the areas to be decontaminated. In addition, to steam cleaning, the secondary containment systems should be triple rinsed.

8. The closure plan must describe the equipment to be used to decontaminate the secondary containment system and how the wastewater generated from the decontamination activities will be collected.
9. The closure plan must provide an explanation how the sweepings and wastewater resulting from the decontamination activities will be properly characterized for off-site disposal. In addition, the closure plan must identify the type of off-site disposal facilities to be used.
10. The closure plan must include a diagram showing the locations where the wipe tests will be conducted. The closure plan must also identify the parameters for which the wipe test samples will be analyzed, and the respective analytical methods and detection limits. The criteria for determining if the secondary containment systems have been adequately decontaminated must be included in the closure plan.
11. Items I-1d(3) - I-1d(6) must be deleted.
12. The facility plan provided in Attachment I-1 must be revised in accordance with Deficiency II.A.9.
13. The closure schedule must be revised to include the appropriate steps needed to close the storage tank units and related equipment, and the unloading/loading area.
14. Sections I and I-4, and Attachment I-3 address the closure cost estimate. The closure cost estimate is not acceptable for the reasons stated below and must be revised.
  - a. The closure cost estimate must be revised such that it is based on 1991 dollars.
  - b. The closure cost estimate must be revised to include the appropriate costs associated with closing the storage tank units and related equipment, and the unloading/loading area.
  - c. As stated in 40 CFR §264.142, the closure cost estimate must be based on the cost of hiring a third party to close the facility and may not incorporate any salvage value or other assets

that may be realized by the facility. Detrex may not base the cost of removing and disposing of the hazardous waste inventory on a third party reclaiming the wastes at the Detrex facility. The cost estimate must be revised such that it is based on a third party removing the waste by shipping it off-site.

15. Facilities using the financial test to demonstrate both financial assurance for closure costs and liability coverage must use the Michigan financial test form. The financial test form submitted with the application is not acceptable. The RCRA financial test form may be used to demonstrate liability coverage only. A separate, MDNR approved mechanism would then have to be provided to demonstrate financial assurance form closure costs.

A state financial form is enclosed for your use. Detrex must provide the appropriate mechanism(s) to demonstrate compliance with the financial capability requirements. The current financial statements must also be provided.

J. Environmental Assessment - R 299.9508(1)(b),  
R 299.9504(1)(e)

1. This section of the application must be revised to include information regarding the facility's hazardous waste tank storage units and the management of bulk shipments that are received at the facility.
2. The failure mode assessment must state that the facility also has tank storage and receives waste in bulk shipments on occasion. The failure mode assessment must address potential releases associated with the bulk shipments (transfer of waste and transportation on-site).
3. Section J-7e suggests that the potential for releases to the soil exists. See Deficiency II.O.
4. The failure mode assessment does not address the potential magnitude and nature of human exposure resulting from releases as required by R 299.9504(1)(e)(iii).

K. Manifesting, Recordkeeping, and Reporting -  
R 299.9608, R 299.9609, and R 299.9610

1. The application must specify the procedures implemented to ensure that the Act 64 manifesting, recordkeeping, and reporting requirements are followed. It is not acceptable to incorporate the requirements by reference as Detrex does in Section D, page D-6.

L. Location Standards, and Facility Design and Operating Standards - R 299.9603, R 299.9604

1. The application must include a demonstration that the facility is in compliance with the location standards, and facility design and operating standards established in R 299.9603 and R 299.9604, respectively.

M. Certification of Capability - R 299.9508(1)(d)

1. The application must contain a certification of the storage facility's capability for storing hazardous waste. The certification addressing each unit must be prepared and signed by a registered professional engineer. It must include the language contained in 40 CFR §270.11(d).

N. Environmental Permits - R 299.9508(1)(b)

1. In accordance with R 299.9508(1)(b), and R 299.615(3) and (4), Detrex must demonstrate compliance with the National Fire Protection Association (NFPA), standard number 704 and 1941 P.A. 207, as amended, Act 207. In an effort to evaluate Detrex's compliance with these regulations, the application was sent to the Department of State Police, Fire Marshal Division for review.

Aboveground, outside, storage tanks used to hold material (waste or product) with a flash point less than 200 degrees F, and with a capacity greater than 1,000 gallons must be inspected and certified by the State Fire Marshal. This requirement does not include process vessels used to blend, separate, allow thermal or chemical action or meter product. According to the Fire Marshal Division,



Detrex currently has no certified tanks on file at its office. Detrex must contact the Fire Marshall Division to arrange any required certification. The application must include copies of the required certification letters.

2. The Wayne County Public Health Department, Air Pollution Control Division, also reviewed the application. Based on its review of the information contained in the original application submittal, it was determined that five pieces of equipment required pollution source installation permits; three fixed roof storage tanks, a wiped film evaporator, and a distillation unit. According to the Air Pollution Control Division, permit applications for this equipment were submitted. However, the applications were deficient for the following reasons:
  - a. no analytical report on the maximum concentration of each halogenated organic solvent in the wastes accepted at the facility was provided;
  - b. process emission estimates for all of the F001 solvent vapors based on worst-case wastes being recycled at the facility were not provided;
  - c. a Best Available Control Technology (BACT) proposal for the volatile organic compound (VOC) emission sources, including control equipment specifications and efficiency estimates with supporting calculations, was not provided;
  - d. the location and elevation of final tank vent emissions points were not provided; and
  - e. an evaluation of the environmental acceptability of the facility based on predicted ambient air quality impact and risk assessment was not provided.

This information must be provided to the Air Pollution Control Division as appropriate. Since operations at the facility may have changed since the Air Pollution Control Division reviewed the original operating license application submittal, Detrex must verify that all necessary pieces of

equipment have the appropriate air permits (or permit applications submitted). It is recognized that Detrex may have actually obtained permits for some of the equipment since the operating license application was originally submitted. The application must include copies of all applicable air permits and air permit applications.

**O. Compliance Schedule - R 299.9508(1)(g)**

1. Several items at the facility have been identified as needing modification. These items include:
  - a. Delineation of the container storage unit boundaries and rows for containers within the unit itself (see Deficiency II.D.12);
  - b. Upgrading the container storage unit secondary containment system (see Deficiencies II.D.19 and II.E.2, and page D-7 of the application); and
  - c. Upgrading the unloading/loading area (see Deficiency II.E.4.a and b).

Detrex Corporation must submit a work plan outlining how it intends to address these items to demonstrate compliance with the applicable rules. The plan must specify the necessary modifications to any procedure, equipment, process, or portion of the facility, together with the expected dates of completion. Detrex must address how the waste will be handled when the modifications are being completed.

In describing the modifications necessary to the unloading/loading area, Detrex must explain the program it intends to implement to ensure that any contaminated soils are properly addressed prior to any concrete placement.

In preparing the plan, Detrex must clearly distinguish between existing conditions at the facility and proposed modifications.

### ATTACHMENT 3

#### REJECTED LOAD PROCEDURES

##### TSD Responsibilities

###### 1. Totally Rejected Load

- a. Note reason for rejection in Item 19 of manifest along with date and signature.
- b. Do not sign Item 20.
- c. Remove TSD copy and return remaining copies of the manifest to the transporter.

###### 2. Partially Rejected Load

- a. Permission of the generator must be obtained and documented to partially reject a load.
- b. The reason for rejection, quantity rejected and generator contact name granting permission must be referenced in Item 19.
- c. \*Item 13 is lined out and the new quantity inserted to reflect only the quantity accepted.
- d. Item 20 is completed.
- e. Distribute manifest copies as per accepted loads.

##### Transporter Responsibilities

###### 1. Totally Rejected Load

- a. If an alternate disposal facility is available, contact the generator to obtain permission to designate a new facility.
- b. If permission is obtained, alter the manifest as follows:
  1. Item 9/10 - simply line out originally designated facility and replace with new facility information.

\*Must alter to ensure change noted by Key punch.

2. Note in Item 19 permission granted by generator, contact name, date and transporter signature.
- c. Transport to the newly designated TSDF for acceptance.
- d. The TSDF will need to be provided with an additional manifest copy since the TSDF which originally rejected the load removed the TSDF copy.
- e. If no alternative disposal facility is available, return the load to the generator and obtain the generator's signature and date in Item 19 acknowledging the returned load.
- f. Remove transporters copy of manifest.

2. Partially Rejected Loads

- a. If no alternate disposal facility is possible, return the load to the generator. Loads returned to the generator must be signed and dated by the generator in Item 19 acknowledging receipt. The only copy of the manifest the transporter will have is the transporter copy.
- b. If an alternate disposal facility is possible, contact the generator to obtain permission to designate a new facility.
- c. If permission is obtained, the transporter acting as an authorized contractor for the generator prepares a new manifest as follows:
  1. Indicate the more appropriate US DOT description/ waste code if determined by the rejection.
  2. Item 13 indicates the quantity originally rejected.
  3. The original manifest number and date of rejection is to be noted in Item 19.
  4. The new TSD information is to be completed.
  5. The generator's name authorizing the TSDF facility is to be clearly printed in the generator line and verified by having the driver sign on the generators line. The date of the generator's approval must also be placed on the generator line.

6. The remainder of the manifest is to be completed as appropriate with the information supplied on the original manifest. The generator and MDNR 1st copy of the manifest is to be returned to the generator.
- d. The generator has the option of providing a replacement manifest with an original generator signature. The replacement manifest must contain, in Item 19, the original manifest number and the date of rejection. (It should be noted that the transporter copy for a partially rejected load is the shipping document only authorizing the return of the waste to the generator).

#### Generators Responsibilities

##### 1. Totally Rejected Loads

- a. permission may be granted to the transporter to designate an alternate disposal facility.
- b. Loads returned to the generator must be signed and dated by the generator in Item 19 acknowledging receipt.
- c. The transporter manifest copy is given to the transporter and the MDNR 2nd copy is mailed to the Department.
- d. Returned rejected loads when sent out for subsequent disposal must have the original manifest number and the date of rejection noted in Item 19 on the new manifest.

##### 2. Partially Rejected Loads

- a. Permission must be granted to the TSDF to accept/reject partial loads.
- b. For a load returned to the generator:
  1. The manifest returned to the generator must be signed and dated by the generator in Item 19 acknowledging receipt.
  2. The transporter manifest copy is given to the transporter and the MDNR 1st and 2nd copies are mailed to the Department.
- c. There are two options to designate an alternate disposal facility:
  - 1.a. Provide a new manifest to the transporter for shipment of the load to the designated facility.

- b. Returned rejected loads when sent out for subsequent disposal must have the original manifest number and the date of rejection noted in Item 19 on the new manifest.
  - c. Follow normal manifest distribution.
- 2.a. Designate the transporter to prepare a new manifest with the information specified in the section "Transporter-Partially Rejected Load 2(c)".
- b. The generator and MDNR 1st copy of the manifest is to be returned to the generator by the transporter. The MDNR 1st copy of the manifest must be mailed to the Department.

National Chemical Services, Inc.  
 312 West End  
 Detroit, MI 48209  
 PH. # (313)841-1020  
 EPA # MID981192081

Date of Inspection \_\_\_\_\_  
 Name of Inspector \_\_\_\_\_  
 Time Inspection Began \_\_\_\_\_  
 Time Inspection Completed \_\_\_\_\_  
 Inspector's Signature \_\_\_\_\_

TANK  
 DAILY AND WEEKLY INSPECTION REPORT

Equipment	Condition (Column 1)	Equip. Item ID No.(s) (Column 2)	Nature of Problem(s) (Column 3)	Remedial Action Required	Remedial Action Completion Date
Level Instruments		Refer to Monitoring Equipment Daily Inspection Report			
pH Instruments		Refer to Monitoring Equipment Daily Inspection Report			
Surrounding Area		Refer to Spill Control/Decontamination Daily Inspection Report			
Uncovered Tanks (level of waste-daily)					
T-3					
T-4					
T-5					
T-6					
T-7					
T-8					
T-11					
T-18-1/5					
T-18-2/5					
T-18-5/5					
Overflow Control (overflow nozzles-daily)					
T-1					
T-2					
T-3					
T-4					
T-6					

NCS Act 64 Submittal  
 Revision 1 March 198  
 III-6-48

POSITION TITLE: Production Supervisor

NAME OF EMPLOYEE: See Figure H.1

**POSITION RESPONSIBILITIES AND DUTIES:**

1. Assists in the maintenance and operation of facility compliance with RCRA and other permits.
2. Oversees chemical operators and reviews their performance.
3. Trains operators to operate materials/drum handling equipment safely and effectively, and to handle leaks, spills and emergency situations.
4. Screens off-site waste, checks and signs manifest, and retrieves sample for characterization in laboratory.
5. Reviews all drummed wastes to be stored and assigns wastes to proper storage location.
6. Inspects or oversees inspection of drum storage areas and emergency equipment.
7. Reviews and signs manifests on outgoing waste.
8. Maintains operating log, monitoring records, maintenance records, inspection records, personnel training records, and all other required records.
9. Notifies plant safety and environmental manager, production manager and, if so directed, proper authorities in emergency situations.
10. Schedules all maintenance and repairs to structures and equipment for HWM facility.
11. Oversees mechanic/electrician doing both scheduled and unscheduled maintenance and repair work to be sure he is not releasing hazardous wastes to the environment or contaminating himself.
12. May act as alternate emergency coordinator.

**EXPERIENCE AND QUALIFICATIONS:**

1. Associate (2-year) degree in Chemical, Civil, Environmental or Mechanical Engineering.
2. Two or three years experience in plant operation.
3. Hazardous waste management experience helpful but not required.

Note: If applicant has no hazardous waste experience, special training in the functions and operation of a hazardous waste storage facility will be required before assuming job responsibilities. This training will be provided by OMI.



FINANCIAL TEST PROVISIONS OF PART 7 OF THE  
ACT 64 ADMINISTRATIVE RULES (MARCH, 1990)

All hazardous waste treatment, storage, and disposal facilities in Michigan are subject to the financial capability requirements specified in Part 7 of the Act 64 administrative rules. There is a choice of 2 financial tests which may be used, dependent on the type of financial capability to be demonstrated.

The Michigan financial test (Attachment 1) may be used for the following:

1. Financial assurance for closure and post-closure care;
2. Financial responsibility for liability coverage; or
3. A combination of 1 and 2.

The RCRA financial test (Attachment 2) may be used only to demonstrate financial responsibility for liability coverage for those facilities located within Michigan. The RCRA financial test may not be used if financial assurance for closure or post-closure care for facilities located within Michigan is also being demonstrated by the test. Note that if a financial test is being used to demonstrate assurance of closure or post-closure costs in other states, then Part B of the RCRA financial test must be completed.

To satisfy the financial test provisions, the Michigan financial test (Attachment 1) or RCRA financial test (Attachment 2) must be submitted to the Director with the following:

1. A copy of the independent certified public accountant's report on examination of the owner's, operator's, or guarantor's financial statements for the latest completed fiscal year; and
2. A special report from the owner's, operator's, or guarantor's independent certified public accountant to the owner, operator, or guarantor stating both of the following:
  - a. That the accountant has compared the data which the letter from the Chief Financial Officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and
  - b. In connection with the procedures of paragraph a. above, no matters came to the attention of the accountant which caused the accountant to believe that the specified data should be adjusted.

Note that when completing the financial test tables (Alternative 1 or Alternative 2 in the letter from the Chief Financial Officer), the amount of aggregate annual liability coverage is not the sum of the coverages for each facility listed in the test. Liability coverage requirements are per

care so guaranteed are itemized separately for each facility:  
\_\_\_\_\_.

5. In other states where EPA is not administering the financial requirements of Subpart H of 40 CFR Part 264, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Part 264. The current closure and/or post-closure estimates covered by such a test are itemized separately for each facility: \_\_\_\_\_.
6. In other states where EPA is not administering the financial requirements of Subpart H of 40 CFR Part 264, this firm, as owner or operator or guarantor, is demonstrating financial responsibility for liability coverage for the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Part 264. The liability coverages covered by such a test are itemized separately for each facility:  
\_\_\_\_\_.
7. In states where EPA is administering the financial requirements of Subpart H of 40 CFR Part 264, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of the financial test specified in Subpart H of 40 CFR Part 264. The closure and/or post-closure cost estimates covered by this test are itemized separately for each facility: \_\_\_\_\_.
8. In states where EPA is administering the financial requirements of Subpart H of 40 CFR Part 264, this firm, as owner or operator or guarantor, is demonstrating financial responsibility for liability coverage for the following facilities through the use of the financial test specified in Subpart H of 40 CFR Part 264. The liability coverages covered by this test are shown for each facility:  
\_\_\_\_\_.
9. This firm is the owner or operator of the following hazardous waste management facilities for which financial capability is not demonstrated either to EPA or a state through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Part 264 or equivalent or substantially equivalent state mechanisms. Both the liability coverages and current closure and/or post-closure cost estimate amounts not covered by such financial assurance are itemized separately for each facility:  
\_\_\_\_\_.
10. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under 40 CFR Part 144. The current plugging and abandonment cost estimates as required by 40 CFR 144.62 are itemized separately for each facility: \_\_\_\_\_.

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk (\*) are derived from this firm's independently audited, year-end financial statements for the latest fiscal year, ended [date].

[Fill in Alternative 1 if the criteria of 1989 AACs, R299.9709(1)(a) are used. Fill in Alternative 2 if the criteria of 1989 AACs, R299.9709(1)(b) are used.]

## Alternative 2

- |   |            |           |
|---|------------|-----------|
| 1. Sum of current closure and post-closure cost estimates for Michigan facilities (total of all cost estimates listed in above paragraphs 3 and 4)  | \$         |           |
| 2. Sum of current closure and post-closure cost estimates for non-Michigan facilities (total of all cost estimates listed in above paragraphs 5, 7, and 9)                                  | \$         |           |
| 3. Sum of current plugging and abandonment cost estimates for all UIC facilities for which financial assurance is required under 40 CFR Part 144 (total of paragraph 10)                    | \$         |           |
| 4. Amount of annual aggregate liability coverage (maximum aggregate for facilities listed in above paragraphs 1, 2, 6, 8, and 9)  | \$         |           |
| 5. Sum of lines 1, 2, 3, and 4  | \$         |           |
| 6. Current bond rating of most recent issuance and name of rating service   |            |           |
| 7. Date of issuance of bond   |            |           |
| 8. Date of maturity of bond   |            |           |
| *9. Tangible net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line) | \$         |           |
| *10. Total assets in the U.S.   | \$         |           |
| *11. Total assets in Michigan excluding the value of land used for hazardous waste disposal   | \$         |           |
| *12. Total assets in Michigan including the value of land used for hazardous waste disposal   | \$         |           |
|   | <u>Yes</u> | <u>No</u> |
| 13. Is line 9 at least \$10 million?  | _____      | _____     |
| 14. Is line 9 at least 6 times line 5?  | _____      | _____     |
| *15. Are at least 90% of firm's assets located in the U.S.? If not, complete line 16.   | _____      | _____     |
| 16. Is line 10 at least 6 times line 5?   | _____      | _____     |
| *17. Is line 11 at least \$50 million?  | _____      | _____     |
| 18. Is line 12 at least 6 times line 1?   | _____      | _____     |

I hereby certify that the wording of this letter is identical to the wording in the letter specified by the Director for the financial test as such letter was specified on the date shown immediately below.

[signature]

[name]

[title]

[date]

Part A. Liability Coverage for Accidental Occurrences

Fill in Alternative I if the criteria of paragraph (f)(1)(i) of §264.147 or §265.147 are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of §264.147 or §265.147 are used.]

Alternative 1

- |      |   |            |           |
|------|---|------------|-----------|
| 1.   | Amount of annual aggregate liability coverage to be demonstrated.         | \$         | _____     |
| *2.  | Current assets  | \$         | _____     |
| *3.  | Current liabilities   | \$         | _____     |
| 4.   | Net working capital (line 2 minus line 3)                                 | \$         | _____     |
| *5.  | Tangible net worth  | \$         | _____     |
| *6.  | If less than 90% of assets are located in the U.S. give total U.S. assets | \$         | _____     |
|      |   | <u>Yes</u> | <u>No</u> |
| 7.   | Is line 5 at least \$10 million?  | _____      | _____     |
| 8.   | Is line 4 at least 6 times line 1?  | _____      | _____     |
| 9.   | Is line 5 at least 6 times line 1?  | _____      | _____     |
| *10. | Are at least 90% of assets located in the U.S.? If not, complete line 11. | _____      | _____     |
| 11.  | Is line 6 at least 6 times line 1?  | _____      | _____     |

Alternative II

- |     |   |    |       |
|-----|---|----|-------|
| 1.  | Amount of annual aggregate liability coverage to be demonstrated                        | \$ | _____ |
| 2.  | Current bond rating of most recent issuance and name of rating service                  |    | _____ |
| 3.  | Date of issuance of bond  |    | _____ |
| 4.  | Date of maturity of bond  |    | _____ |
| *5. | Tangible net worth  | \$ | _____ |
| *6. | Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) | \$ | _____ |

- |   | <u>Yes</u> | <u>No</u> |
|---|------------|-----------|
| 7. Is line 5 at least \$10 million?   | _____      | _____     |
| 8. Is line 5 at least 6 times line 1?   | _____      | _____     |
| 9. Are at least 90% of assets located in the U.S.?<br>If not, complete line 10. | _____      | _____     |
| 10. Is line 6 at least 6 times line 1?  | _____      | _____     |

[Fill in part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or post-closure care.]

#### Part B. Closure or Post-Closure Care and Liability Coverage

[Fill in Alternative I if the criteria of paragraphs (f)(1)(i) of §264.143 or §264.145 and (f)(1)(i) of §264.147 are used or if the criteria of paragraphs (e)(1)(i) of §265.143 or §265.145 and (f)(1)(i) of §265.147 are used. Fill in Alternative II if the criteria of paragraphs (f)(1)(ii) of §264.143 or §264.145 and (f)(1)(ii) of §264.147 are used or if the criteria of paragraphs (e)(1)(ii) of §265.143 or §265.145 and (f)(1)(ii) of §265.147 are used.]

I hereby certify that the wording of this letter is identical to the wording in the letter specified in 40 CFR 264.151(g) as such regulations were constituted on the date shown immediately below.

[Signature]

[Name]

[Title]

[Date]



## **FACT SHEET**

Proposed State Operating License and Federal Permit

for

Detrex Corporation  
Hazardous Waste Container Storage Facility

MID 091 605 972

October 2000

**Michigan Department of Environmental Quality  
&  
United States Environmental Protection Agency**

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## **LIST OF ATTACHMENTS**

- ATTACHMENT 1: HAZARDOUS WASTE COMPLIANCE HISTORY
- ATTACHMENT 2: FACILITY MAPS
- ATTACHMENT 3: ACCEPTABLE WASTE TYPES

## I. EXECUTIVE SUMMARY

The Michigan Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency (U.S. EPA) proposes to issue an operating license and federal permit for the Detrex Corporation to operate a hazardous waste container storage facility located in Detroit, Michigan. Section II of this Fact Sheet describes the state program established to regulate hazardous waste and to license hazardous waste treatment, storage, and disposal facilities (TSDFs).

The provisions of R 299.9518 of the Michigan Administrative Code (MAC) require the MDEQ to issue an operating license to operate a hazardous waste TSDF unless: the facility has not been constructed in accordance with approved plans and applicable rules; the construction or operation of the facility presents a hazard to the public health or the environment; or the applicant has not submitted sufficiently detailed or accurate information to enable the Director to make a reasonable judgment on whether to issue the license.

Based on the MDEQ's and U.S. EPA's review of the Detrex Corporation's operating license application and MDEQ site inspections and audits, the MDEQ and U.S. EPA propose that the license be issued because:

1. The facility will be operated in accordance with approved plans, applicable rules, and the proposed container storage facility operating license. Section III of this Fact Sheet describes the site, the facility design, and the MDEQ's audit activities.
2. The facility does not, at this time, present a hazard to human health or the environment. This conclusion is based on compliance inspections conducted by MDEQ staff. The MDEQ has identified an area of contamination and this area will be addressed as part of the Detrex Corporation's corrective action obligations for the facility. Corrective actions include further investigations, studies, and corrective measures, as necessary, for each area identified. The Detrex Corporation's compliance history is summarized in Attachment 1, Hazardous Waste Compliance History. The Detrex Corporation has generally been responsive in correcting the violations for which it has been cited.
3. The operating license application is sufficiently detailed to demonstrate that the facility's design and operation complies with the applicable technical standards. In addition to the conditions contained in all hazardous waste facility operating licenses, the draft license contains conditions specific to the Detrex Corporation's container storage activities. An explanation of these conditions is included in Section III of this Fact Sheet. Section IV of this Fact Sheet addresses the environmental impact of the facility. The portions of the operating license application that describe how the Detrex Corporation will comply with certain regulations have been attached to the draft operating license as enforceable documents, including: the Waste Analysis Plan, Inspection Schedules, Personnel Training, the Contingency Plan, and the Closure Plan. The Hazardous and Solid Waste Amendments of 1984 (HSWA) requirements that will be addressed as part of the federal permit, referenced in Section II of this Fact Sheet, are outlined in Section V of this Fact Sheet.

Although the MDEQ and U.S. EPA believes that it has done a thorough job in reviewing the Detrex Corporation's operating license application, the agencies seek public input on the proposed issuance of the license and permit. Section VI of this Fact Sheet describes the public participation process.

## II. INTRODUCTION

Part 111, Hazardous Waste Management, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), was passed by the Michigan Legislature to regulate the management of hazardous waste from generation to disposal. Likewise the Resource Conservation and Recovery Act of 1976 (RCRA), was passed by the U.S. Congress to regulate hazardous waste nationwide. RCRA was amended substantially by the HSWA. The HSWA and Part 111 of Act 451 require that facilities comply with more stringent standards, and require that any facility seeking a permit must initiate corrective action for environmental releases at the facility from waste management units.

Both RCRA and Part 111 establish a permit system governing the treatment, storage, and disposal of hazardous wastes. RCRA allows the states to obtain authorization to issue a state hazardous waste operating license in lieu of a federal permit. Effective September 11, 2000, the State of Michigan amended its Part 111 Administrative Rules to be equivalent to those under RCRA and applied to U.S. EPA for authorization to administer all portions of the RCRA program except for some of those under HSWA.

Because Michigan is not authorized to issue permits which address all of the HSWA requirements, the MDEQ and the U.S. EPA will continue to, to the extent possible, coordinate the review and issuance of hazardous waste facility permits. The duration of the Part 111 operating license will be ten years.

## III. FACILITY DESCRIPTION

### A. Facility Location and Design and Construction

The Detrex Corporation operates at 12886 Eaton Avenue in Detroit. The facility is surrounded by various types of land uses including residential to the west and further to the north, and industrial to the north, south, and east. The facility location map is contained in Attachment 2, Facility Maps.

The facility operates as a commercial hazardous waste container storage facility for a variety of hazardous wastes that are collected from such industries as metal working degreasing operations, rubber molding operations, electronic circuit boards and other components defluxing operations, paint spraying equipment operations, and other similar types of industries. Containers of hazardous wastes are accumulated for up to one-year.

The facility consists of two single-story cinder block buildings. Only one of the buildings is used for hazardous waste management operations. Additionally, hazardous wastes may be stored outdoors in containment trailers within a concrete-lined bay surrounded by a fence. A map showing the facility layout,

including hazardous waste storage units, is contained in Attachment 2, Facility Maps. The maximum hazardous waste container storage capacity at the facility is 13,750 gallons.

**B. Facility Specific License Conditions**

Part III of the draft operating license contains special conditions for the facility with respect to the types of wastes that may be stored at the facility, the storage capacity of the various units, and the prohibition of bulking of hazardous wastes.

Part IV of the draft operating license contains special conditions pertaining to which waste management units require further corrective action as discussed below.

Part V of the draft operating license contains special conditions pertaining to the schedule of compliance for the construction and modification of some of the indoor container storage units.

**IV. ENVIRONMENTAL IMPACT OF REGULATED UNITS**

**A. Wastes Stored**

A list of the hazardous wastes that may be stored at the facility by the Detrex Corporation is included as Attachment 3, Acceptable Waste Types. The Detrex Corporation stores a variety of hazardous wastes generated primarily from off-site. Issuance of the facility operating license will authorize the Detrex Corporation to continue to store hazardous waste in containers.

**B. Environmental Monitoring Waivers**

The Detrex Corporation has received waivers for groundwater, soil, and air monitoring for its storage facility pursuant to the demonstration it provided to the MDEQ in accordance with R 299.9611.

**C. Corrective Actions**

The objective of the corrective action program is to remedy releases of hazardous waste or hazardous constituents that threaten human health or the environment. Corrective actions are generally implemented in four phases which include: a RCRA Facility Assessment (RFA), a RCRA Facility Investigation (RFI), a Corrective Measures Study (CMS), and Corrective Measures Implementation (CMI). A formal corrective action program shall be implemented upon issuance of the operating license. Sixteen waste management units have been identified at the facility. Eight of the waste management units, waste management units 6-13, require no further corrective action based on the design of the units and the available information regarding the units which indicates that no known or suspected releases of contaminants from the units have occurred. Seven of the waste management units, waste management units 1-5, 15, and 16 require no further corrective action because the units are currently operational and do not appear to have any releases of contaminants to the environment and impacts

from the units. Corrective action for these units will be addressed in conjunction with the closure of the facility in the future. The one remaining waste management unit, waste management unit 14, historical fill, requires further corrective action.

*The RCRA Facility Assessment:* The RFA typically includes a file search (FS), a preliminary review of the information gathered during the FS (PR), a visual site inspection (VSI), and a sampling visit (SV) (if necessary). The objectives of the RFA are: (1) To obtain a thorough understanding of the past and present facility waste management operations; (2) To identify all facility waste management units; (3) To use the FS, PR, and VSI information to assess the potential for a release of hazardous waste or hazardous constituents from each waste management unit; and (4) For each waste management unit to determine if further actions are necessary to protect human health and the environment from a release. Corrective action requirements are addressed in the draft operating license.

*The RCRA Facility Investigation:* The RFI is used to further characterize and delineate the extent and impact of contaminants from waste management units identified during the RFA. Corrective action requirements are addressed in the draft operating license.

*The Corrective Measures Study:* During the CMS and based on the information gathered during the RFI, the company will select preliminary technologies for remediation of the facility. These technologies shall be subject to MDEQ approval prior to implementation by the facility.

*Corrective Measures Implementation:* During the CMI, the facility will implement the technologies for remediation that were approved in the CMS phase of the corrective action process. This is the beginning of actual site wide cleanup efforts.

*Interim Measures:* Interim Measures (IMs) are used at any stage of the corrective action process to take care of immediate threats to human health or the environment, or specific highly contaminated areas. IMs are also often integrated into the final cleanup remedy for a facility.

## **V. HSWA REQUIREMENTS**

The federal permit will address requirements for compliance with the land disposal restriction and air emission standards for containers provisions of the HSWA for which the state is not yet authorized.

## VI. PUBLIC PARTICIPATION

### A. Public Comment Procedures

The purpose of public participation is to ensure that the interested public has knowledge of the MDEQ and U.S. EPA proposed actions, and the opportunity to comment on those actions. In addition, the process ensures that the MDEQ and U.S. EPA have the opportunity to benefit from information the public might have relevant to the proposed actions. Comments may be submitted in writing to Ms. Ronda L. Blayer or Mr. Nabil Fayoumi at the addresses listed in Subsection C below between November 3 and December 19, 2000, or comments may be presented at the public hearing. The public comment and public hearing procedures that will be followed are stated in the provisions of R 299.9514 and R 299.9515 of the MAC.

After the close of the public comment period, the MDEQ and U.S. EPA will decide whether to issue the final operating license and federal permit, respectively. Written comments submitted during the public comment period, including any comments provided during any public hearings, will be considered by the Director of the MDEQ and the U.S. EPA to formulate a final decision on the license. Responses to written comments and statements will be included in the record supporting the final decision of the agencies. The final license and permit decision will be communicated to the applicant, each person who submitted a written comment during the public comment period, persons providing written statements at any public hearing that may be held, and all persons on the facility mailing list.

### B. Locations of Available Information

The administrative record for the state hazardous waste facility operating license renewal is on file at the MDEQ, Waste Management Division Office, located on the First Floor of the John A. Hannah Building in Lansing, Michigan (contact Ms. Blayer at 517-373-9548). In addition, copies of the draft operating license, draft federal permit, and the Fact Sheet are available for review at the MDEQ, Detroit Office, located at 300 River Place, Suite 3600, in Detroit, Michigan (contact Ms. Jeanette Noechel at 313-392-6524); and at the Edison Branch Library, located at 18400 Joy Road, in Detroit, Michigan (contact Ms. Karen Johnson at 313-852-4515).

### C. Contact Persons

Comments and requests regarding the state operating license should be addressed to Ms. Ronda L. Blayer, Waste Management Division, MDEQ, P. O. Box 30241, Lansing, Michigan 48909. Comments regarding the federal permit should be addressed to Mr. Nabil Fayoumi (DRP-8J), U.S. EPA, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604-3590. Written comments concerning the draft operating license or draft federal permit should include the name and address of the writer, a concise statement of the basis for the comments, and the supporting relevant facts upon which the comments are based. All further requests for information, including requests for copies of the draft permit or license and the Fact Sheet should be made to Ms. Blayer at the address printed above. Written comments must be postmarked no later than December 19, 2000.

**ATTACHMENT 1**

**HAZARDOUS WASTE COMPLIANCE HISTORY**



## COMPLIANCE HISTORY

**DETREX CORPORATION**  
**MID 091 605 972**

### **Michigan Department of Environmental Quality Waste Management Division**

<b>DATE</b>	<b>ACTIVITY</b>	<b>RETURNED TO COMPLIANCE</b>
September 15, 1992	Compliance Inspection and Transporter Inspection. Letter of Warning (LOW) issued on September 29, 1992. Noted transporter and generator general violations and general treatment, storage, and disposal facility (TSDF) violations.	January 25, 1993
September 21, 1992	Financial Record Review	In Compliance
November 19, 1992	Compliance Inspection and follow up inspection. LOW issued on December 1, 1992. Noted general TSDF violation.	
February 8, 1993	Compliance Inspection. LOW issued February 11, 1993. Noted TSDF permit condition, preparedness and prevention and recordkeeping violations.	April 6, 1993
May 12, 1993	Compliance Inspection and Transporter Inspection. LOW issued May 25, 1993. Noted TSDF contingency plan, closure plan, container, permit condition and general violations, transporter and generator container violations.	September 15, 1993
July 30, 1993	Compliance Inspection. LOW issued August 3, 1993. Noted TSDF permit condition and container violations, transporter and generator container violations.	January 10, 1994

September 29, 1993	Financial Record Review. LOW issued September 29, 1993.	In Compliance
November 1, 1993	Compliance Inspection. LOW issued November 9, 1993. Noted TSDF land disposal restrictions (LDR), closure plan and generator general and container violations.	January 10, 1994
March 8, 1994	Compliance Inspection. LOW issued March 21, 1994. Noted transporter general and recordkeeping violations, TSDF permit condition and recordkeeping violations and generator container violations.	April 25, 1994
May 27, 1994	Compliance and Transporter Inspection. LOW issued June 1, 1994. Noted generator container and transporter manifest and general violations, and TSDF preparedness and prevention, contingency plan and permit condition violations.	September 6, 1994
July 7, 1994	Compliance Inspection. LOW issued July 13, 1994. Noted transporter general and generator container violations, and TSDF permit condition, container and tank violations.	September 6, 1994
September 23, 1994	Financial Record Review. LOW issued September 23, 1994.	April 18, 1995
December 2, 1994	Compliance Inspection. LOW issued December 12, 1994. Noted Permit Condition, manifest, and general TSDF violations. Noted generator container violation.	June 14, 1995

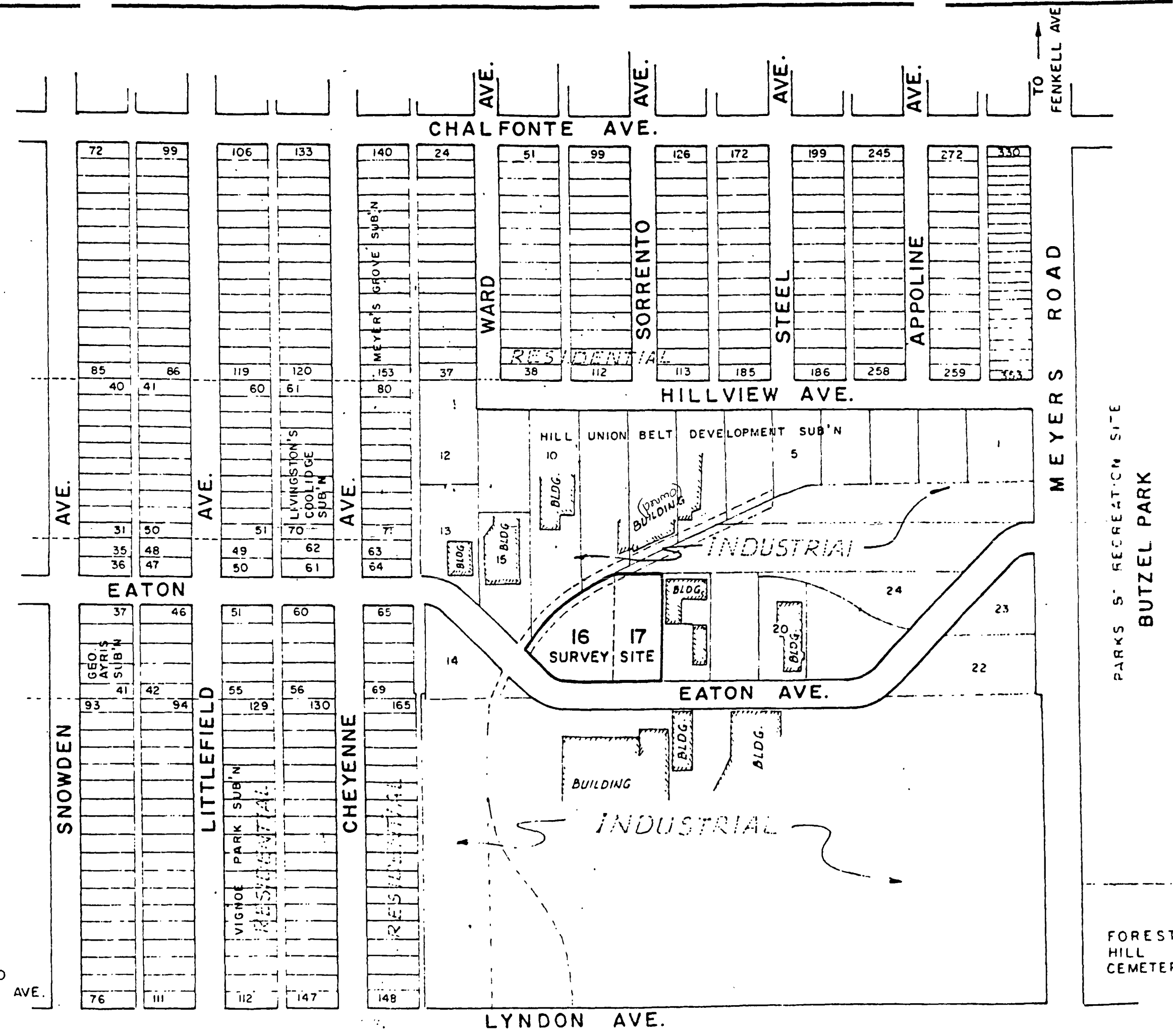
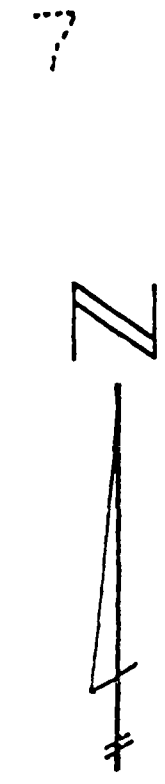
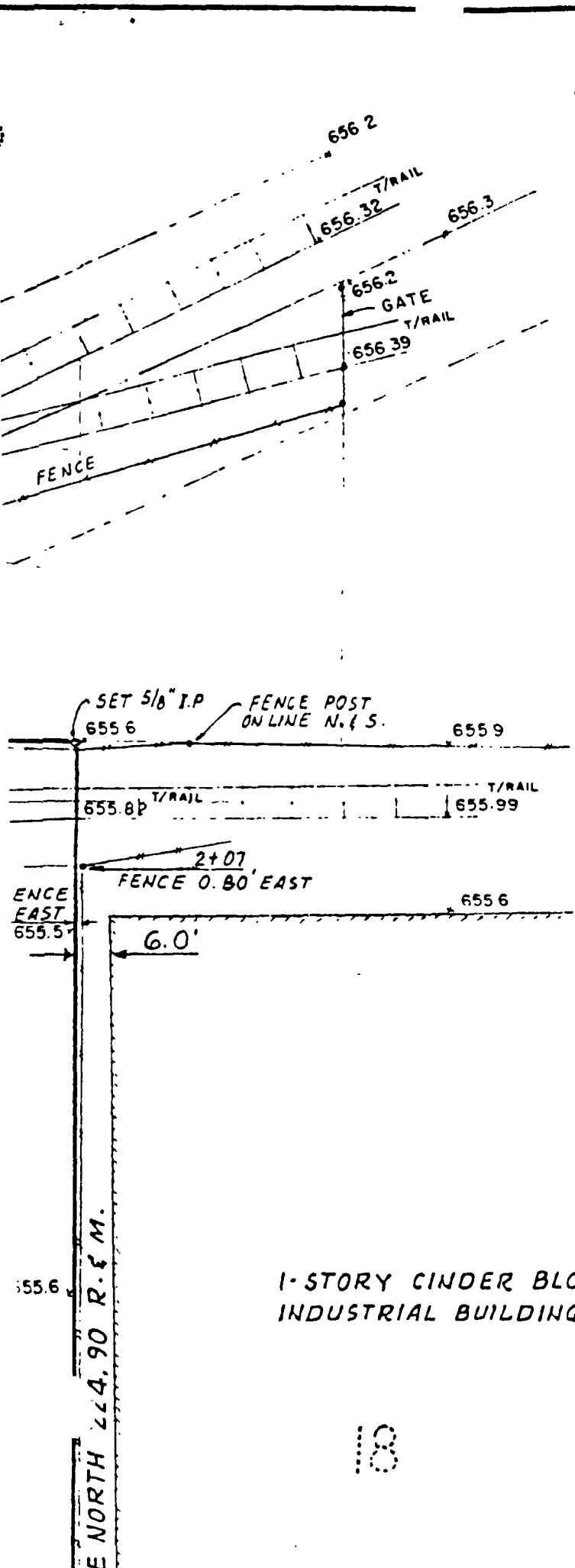
March 7, 1995	Compliance Inspection. LOW issued March 13, 1995. Noted TSDF permit condition, container and waste analysis violations, and transporter violation.	June 14, 1995
May 17, 1995	United States Environmental Protection Agency Inspection. LOW issued May 25, 1995. Lab Audit.	January 9, 1997
May 25, 1995	Compliance Inspection. LOW issued June 8, 1995. Noted TSDF personnel training and permit condition violations, transporter and generator container violations.	January 22, 1995
September 15, 1995	Compliance Inspection. LOW issued September 26, 1995. Noted generator manifest and container violations. Noted TSDF container, general and permit condition violations.	January 9, 1997
December 19, 1995	Compliance Inspection. LOW issued December 21, 1995. Noted TSDF permit condition, container, general, and manifest violations. Noted generator recordkeeping, LDR, container and personnel training/contingency plan violations.	March 6, 1997
June 25, 1996	Compliance Inspection. LOW issued July 1, 1996. Noted TSDF permit condition, general and manifest violations, transporter and generator container violations.	January 25, 1997
November 13, 1996	Compliance Inspection. LOW issued November 27, 1996. Noted TSDF tank, air emission, general, containers and permit condition violations, transporter and generator LDR violations.	August 12, 1997

June 17, 1997	Compliance Inspection. LOW issued July 7, 1997. Noted TSDF permit condition and general violations, and generator container and personnel training/contingency plan violations.	January 16, 1998
June 23, 1997	Record Review - letters received from Detrex, City Management Corporation and Mueller Impacts. Waste characterization/Waste approval issue.	November 2, 1998
July 28, 1997	Meeting at Facility, regarding letters reviewed June 23, 1997. LOW issued August 11, 1997. Noted TSDF permit condition and generator general, manifest and LDR violations. Referred for enforcement August 21, 1997.	November 2, 1998
November 26, 1997	Compliance and Transporter inspection. LOW issued December 3, 1997. Noted TSDF container violation, transporter and used oil violations.	March 4, 1998
May 13, 1998	Compliance Inspection. LOW issued May 27, 1998. Noted TSDF contingency plan and permit condition violations.	October 23, 1998
September 24, 1998	Consent Order 111-09-98 entered into effective September 24, 1998. See entries for June 17, 1997, June 23, 1997 and July 28, 1997.	Not Applicable
November 5, 1998	Compliance Inspection. LOW issued November 18, 1998. Noted TSDF waste approval, manifest and permit condition violations. Only remaining open issue is a waste approval issue.	

April 23, 1999	Compliance Inspection. LOW issued May 14, 1999. Noted TSDF general and permit condition violations, and used oil violation. Only remaining open issues are waste approval and waste characterization issues.	
February 2, 2000	Compliance Inspection. LOW issued February 15, 2000. Noted TSDF general and closure plan violations, generator general, manifest, LDR, container and personnel training/contingency plan violations. Only remaining open issues are waste approval and generator LDR issues.	
September 19, 2000	Compliance and Transporter inspection. LOW issued September 29, 2000. Noted TSDF general violation, and transporter, used oil and generator container violations. Response due from the Facility October 30, 2000.	November 22, 2000

**ATTACHMENT 2**

**FACILITY MAPS**







**ATTACHMENT 3**  
**ACCEPTABLE WASTE TYPES**

## ACCEPTABLE WASTE TYPES FOR CONTAINER STORAGE

<i>Waste</i>	<i>EPA Hazardous Waste Number and Hazard Code</i>
Ignitable Wastes	D001 (I)
Corrosive Waste	D002 (C)
Arsenic	D004 (T)
Barium	D005 (T)
Cadmium*	D006 (T)
Chromium	D007 (T)
Lead	D008 (T)
Mercury	D009 (T)
Selenium*	D010 (T)
Silver	D011 (T)
Endrin	D012 (T)
Benzene	D018 (T, I)
Carbon Tetrachloride	D019 (T), U211(T)
Chlorobenzene	F002 (T, I), D021(T, I), U037(T, I)
Chloroform	D022 (T), U044(T)
1,4-Dichlorobenzene	D027 (T), U072(T)
1,2-Dichloroethane	D028 (T, I), U077(T, I)
1,1-Dichloroethylene	D029 (T, I), U078(T, I)
2,4-Dinitrotoluene	D030 (T)
Heptachlor*	D031 (T)
Hexachlorobenzene	D032 (T), U127(T)
Hexachloroethane	D034 (T), U131(T)
Methyl Ethyl Ketone	D035 (T, I), F003 (I)
Nitrobenzene	D036 (T)
Tetrachloroethylene	F001 (T), F002(T), D039 (T), U210(T)
Trichloroethylene	F001(T), F002(T), D040 (T), U228(T)
Vinyl Chloride	D043 (T, I)
Ortho-Dichlorobenzene	F002 (T)
1,1,2,2-Tetrachloroethane	U209(T)
1,1,1,2-Tetrachloroethane	U208(T)
Dichlorodifluoromethane	U075(T)
1,1-Dichloroethane	U076(T, I)
1,1,1-Trichloroethane	F001(T), F002(T), U226(T)
Dichloromethane (Methylene Chloride)	F001 (T), F002 (T), U080(T)

Note: Hazard Code based on 40 CFR 261. Wastes may be liquid or solid.

I - Ignitable Waste  
H - Acute Hazardous Waste  
\* - Extremely Hazardous Waste

T - Toxic Waste  
C - Corrosive Waste

**FACT SHEET**

Proposed State Operating License and Federal Permit

for

Detrex Corporation  
Hazardous Waste Container Storage Facility

MID 091 605 972

November 2000

**Michigan Department of Environmental Quality  
&  
United States Environmental Protection Agency**

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## **LIST OF ATTACHMENTS**

- ATTACHMENT 1: HAZARDOUS WASTE COMPLIANCE HISTORY
- ATTACHMENT 2: FACILITY MAPS
- ATTACHMENT 3: ACCEPTABLE WASTE TYPES

## **I. EXECUTIVE SUMMARY**

The Michigan Department of Environmental Quality (MDEQ) proposes to issue an operating license for Detrex Corporation to operate a hazardous waste container storage facility located in Detroit, Michigan. Section II of this Fact Sheet describes the state program established to regulate hazardous waste and to license hazardous waste treatment, storage, and disposal facilities (TSDFs).

The provisions of R 299.9518 of the Michigan Administrative Code (MAC) require the MDEQ to issue an operating license to operate a hazardous waste TSDF unless: the facility has not been constructed in accordance with approved plans and applicable rules; the construction or operation of the facility presents a hazard to the public health or the environment; or the applicant has not submitted sufficiently detailed or accurate information to enable the Director to make a reasonable judgment on whether to issue the license.

Based on the MDEQ's review of Detrex Corporation's operating license application and MDEQ site inspections and audits, the MDEQ proposes that the license be issued because:

1. The facility will be operated in accordance with approved plans, applicable rules, and the proposed container storage facility operating license. Section III of this Fact Sheet describes the site, the facility design, and the MDEQ's audit activities.
2. The facility does not at this time present a hazard to human health or the environment. This conclusion is based on compliance inspections conducted by MDEQ staff. The MDEQ has identified an area of contamination and this area will be addressed as part of Detrex Corporation's corrective action obligations for the facility. Corrective actions include further investigations, studies, and corrective measures, as necessary, for each area identified. Detrex Corporation's compliance history is summarized in Attachment 1, Hazardous Waste Compliance History. Detrex Corporation has generally been responsive in correcting the violations for which it has been cited.
3. The operating license application is sufficiently detailed to demonstrate that the facility's design and operation complies with the applicable technical standards. In addition to the conditions contained in all hazardous waste facility operating licenses, the draft license contains conditions specific to Detrex Corporation's container storage activities. An explanation of these conditions is included in Section III of this Fact Sheet. Section IV of this Fact Sheet addresses the environmental impact of the facility. The portions of the operating license

application that describe how Detrex Corporation will comply with certain regulations have been attached to the draft operating license as enforceable documents, including: the Waste Analysis Plan, Inspection Schedules, Personnel Training, the Contingency Plan, and the Closure Plan. The HSWA requirements that will be addressed as part of the federal permit, referenced in Section II of this Fact Sheet, are outlined in Section V of this Fact Sheet.

Although the MDEQ believes that it has done a thorough job in reviewing Detrex Corporation's operating license application, the agencies seek public input on the proposed issuance of the license and permit. Section VI of this Fact Sheet describes the public participation process.

## II. INTRODUCTION

Part 111, Hazardous Waste Management, of the Michigan Natural Resources and Environmental Protection Act, 1994 P.A. 451, as amended (Act 451), was passed by the Michigan Legislature to regulate the management of hazardous waste from generation to disposal. Likewise the Resource Conservation and Recovery Act of 1976 (RCRA), was passed by the U.S. Congress to regulate hazardous waste nationwide. RCRA was amended substantially by the Hazardous and Solid Waste Amendments of 1984 (HSWA). The HSWA and Part 111 of Act 451 require that facilities comply with more stringent standards, and require that any facility seeking a permit must initiate corrective action for environmental releases at the facility from waste management units.

Both RCRA and Part 111 establish a permit system governing the treatment, storage and disposal of hazardous wastes. RCRA allows the states to obtain authorization to issue a state hazardous waste operating license in lieu of a federal permit. Effective September 11, 2000, the State of Michigan amended its Part 111 Administrative Rules to be equivalent to those under RCRA and applied to EPA for authorization to administer all portions of the RCRA program except for some of those under HSWA.

Because Michigan is not authorized to issue permits which address all of the HSWA requirements, the MDEQ and the EPA will continue to, to the extent possible, coordinate the review and issuance of hazardous waste facility permits. The duration of the Part 111 operating license will be 10 years.

## III. FACILITY DESCRIPTION

### A. Facility Location and Design and Construction

Detrex Corporation operates at 12886 Eaton Avenue in Detroit. The facility is surrounded by various types of land uses, including residential to the west and further to the north and industrial to the north, south, and east. The facility location map is contained in Attachment 2, Facility Maps.

The facility operates as a commercial hazardous waste container storage facility for a variety of hazardous wastes that are collected from such industries as metal working degreasing operations, rubber molding operations, electronic circuit boards and other components defluxing operations, paint spraying equipment operations, and other similar types of industries. Containers of hazardous wastes are accumulated for up to one year.

The facility consists of two single-story cinder block buildings. Only one of the

buildings is used for hazardous waste management operations. Additionally, hazardous wastes may be stored outdoors in containment trailers within a concrete-lined bay surrounded by a fence. A map showing the facility layout, including hazardous waste storage units, is contained in Attachment 2, Facility Maps. The maximum hazardous waste container storage capacity at the facility is 13,750 gallons.

**B. Facility Specific License Conditions**

Part III of the draft operating license contains special conditions for the facility with respect to the types of wastes that may be stored at the facility, the storage capacity of the various units, and the prohibition of bulking of hazardous wastes.

Part IV of the draft operating license contains special conditions pertaining to which waste management units require further corrective action as discussed below.

Part V of the draft operating license contains special conditions pertaining to the schedule of compliance for the construction and modification of some of the indoor container storage units.

**IV. ENVIRONMENTAL IMPACT OF REGULATED UNITS**

**A. Wastes Stored**

A list of the hazardous wastes that may be stored at the facility by Detrex Corporation is included as Attachment 3, Acceptable Waste Types. Detrex Corporation stores a variety of hazardous wastes generated primarily from off-site. Issuance of the facility operating license will authorize Detrex Corporation to continue to store hazardous waste in containers.

**B. Environmental Monitoring Waivers**

Detrex Corporation has received waivers for groundwater, soil, and air monitoring for its storage facility pursuant to the demonstration in provided to the MDEQ in accordance with R 299.9611.

**C. Corrective Actions**

The objective of the corrective action program is to remedy releases of hazardous waste or hazardous constituents that threaten human health or the environment. Corrective actions are generally implemented in four phases which include: a RCRA Facility Assessment (RFA), a RCRA Facility Investigation (RFI), a Corrective Measures Study (CMS), and Corrective Measures Implementation (CMI). A formal corrective action program shall be implemented upon issuance of the operating license. Sixteen waste management units have been identified at the facility. Eight of the waste management units, waste management units 6-13, require no further corrective action based on the design



of the units and the available information regarding the units which indicates that no known or suspected releases of contaminants from the units have occurred. Seven of the waste management units, waste management units 1-5, 15, and 16 require no further corrective action because the units are currently operational and do not appear to have any releases of contaminants to the environment and impacts from the units. Corrective action for these units will be addressed in conjunction with the closure of the facility in the future. The one remaining waste management unit, waste management unit 14, historical fill, requires further corrective action.

*The RCRA Facility Assessment:* The RFA typically includes a file search (FS), a preliminary review of the information gathered during the file search (PR), a visual site inspection (VSI), and a sampling visit (SV) (if necessary). The objectives of the RFA are: (1) To obtain a thorough understanding of the past and present facility waste management operations; (2) To identify all facility waste management units; (3) To use the FS, PR, and VSI information to assess the potential for a release of hazardous waste or hazardous constituents from each waste management unit; and (4) For each waste management unit, to determine if further actions are necessary to protect human health and the environment from a release. Corrective action requirements are addressed in the draft operating license.

*The RCRA Facility Investigation:* The RFI is used to further characterize and delineate the extent and impact of contaminants from waste management units identified during the RFA. Corrective action requirements are addressed in the draft operating license.

*The Corrective Measures Study:* During the CMS and based on the information gathered during the RFI, the company will select preliminary technologies for remediation of the facility. These technologies shall be subject to MDEQ approval prior to implementation by the facility.

*Corrective Measures Implementation:* During the CMI, the facility will implement the technologies for remediation that were approved in the corrective measures study phase of the corrective action process. This is the beginning of actual site wide cleanup efforts.

*Interim Measures:* Interim Measures (IMs) are used at any stage of the corrective action process to take care of immediate threats to human health or the environment, or specific highly contaminated areas. IMs are also often integrated into the final cleanup remedy for a facility.

## **V. HSWA REQUIREMENTS**

The federal permit will address requirements for compliance with the land disposal restriction and air emission standards for containers provisions of the HSWA for which the state is not yet authorized.

## VI. PUBLIC PARTICIPATION

### A. Public Comment Procedures

The purpose of public participation is to ensure that the interested public has knowledge of the MDEQ proposed actions, and the opportunity to comment on those actions. In addition, the process ensures that the MDEQ have the opportunity to benefit from information the public might have relevant to the proposed actions. Comments may be submitted in writing to Ms. Ronda L. Blayer or Mr. Nabil Fayoumi at the addresses listed in Subsection C below between November 3, 2000 and December 19, 2000, or comments may be presented at the public hearing. The public comment and public hearing procedures that will be followed are stated in the provisions of R 299.9514 and R 299.9515 of the MAC.

After the close of the public comment period, the MDEQ and EPA will decide whether to issue the final operating license and federal permit, respectively. Written comments submitted during the public comment period, including any comments provided during any public hearings, will be considered by the Director of the MDEQ to formulate a final decision on the license. Responses to written comments and statements will be included in the record supporting the final decision of the agencies. The final license and permit decision will be communicated to the applicant, each person who submitted a written comment during the public comment period, persons providing written statements at any public hearing that may be held, and all persons on the facility mailing list.

### B. Locations of Available Information

The administrative record for the state hazardous waste facility operating license renewal is on file at the MDEQ, Waste Management Division Office, located on the First Floor of the John A. Hannah Building in Lansing, Michigan (contact Ms. Blayer at 517-373-9548). In addition, copies of the draft operating license, draft federal permit, and the Fact Sheet are available for review at the MDEQ, Detroit Office, located at 300 River Place, Suite 3600, in Detroit, Michigan (contact Ms. Jeanette Noechel at 313-392-6524); and at the \_\_\_\_\_, located at \_\_\_\_\_, in \_\_\_\_\_, Michigan (contact \_\_\_\_\_ at \_\_\_\_\_).

### C. Contact Persons

Comments and requests regarding the state operating license should be addressed to Ms. Ronda L. Blayer, Waste Management Division, MDEQ, P. O. Box 30241, Lansing, Michigan 48909. Comments regarding the federal permit should be addressed to Mr. Nabil Fayoumi (DRP-8J), EPA, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604-3590. Written comments concerning the draft operating license or draft federal permit should include the name and address of the writer, a concise statement of the basis for the comments, and the supporting relevant facts upon which the comments are based. All further requests for information, including requests for copies of the draft permit or license and the

Fact Sheet should be made to Ms. Blayer at the address printed above. Written comments must be postmarked no later than December 19, 2000.

**ATTACHMENT 1**

**HAZARDOUS WASTE COMPLIANCE HISTORY**

**ATTACHMENT 2**

**FACILITY MAPS**

**ATTACHMENT 3**

**ACCEPTABLE WASTE TYPES**

FACT SHEET

Proposed Operating License and Federal Permit

for

Detrex Corporation  
Solvents and Environmental Services Division  
Hazardous Waste Tank and Container Storage Facility  
Detroit, Michigan

MID 091 605 972

April 1992

Michigan Department of Natural Resources  
U.S. Environmental Protection Agency - Region 5

#31

## **BASIS FOR PROPOSED OPERATING LICENSE AND FEDERAL PERMIT ISSUANCE**

The Michigan Department of Natural Resources (MDNR) proposes to issue an operating license to Detrex Corporation, Solvents and Environmental Services Division (hereafter referred to as "Detrex") for the continued operation of the hazardous waste storage facility at its Detroit, Michigan facility. Simultaneously, the U.S. Environmental Protection Agency (U.S. EPA) proposes to issue a federal permit to Detrex authorizing continued operation. Section I of this Fact Sheet describes the state and federal programs established to regulate hazardous waste and to permit hazardous waste treatment, storage, and disposal facilities.

The provisions of R 299.9518 of the Michigan Administrative Code (MAC) require the MDNR to issue a license to a hazardous waste treatment, storage, or disposal facility unless: the facility has not been constructed in accordance with approved plans, applicable rules, or the conditions of the approved construction permit; the construction or operation of the facility presents a hazard to public health or the environment; or the applicant has not submitted sufficiently detailed or accurate information to enable the Director to make a reasonable judgement as to whether the license should be issued.

Based on the review of Detrex's operating license application and numerous site inspections and audits, MDNR staff have proposed the operating license be issued based on the following conclusions:

1. The facility has been constructed and operated in accordance with approved plans, applicable rules, and interim status standards. Section II of this Fact Sheet describes the facility site and design, and MDNR audit activities.
2. The facility does not at this time present a hazard to human health or the environment. This conclusion is based on compliance inspections conducted by MDNR staff.
3. The operating license application submitted by Detrex is sufficiently detailed to demonstrate that the facility's design and operation complies with the applicable technical standards. In addition to the standard and general facility operating conditions contained in all



operating licenses, the draft license contains conditions specific to Detrex's activities. A summary and explanation of these conditions is included in Section II.C. of this Fact Sheet. The portions of the operating license application that describe in detail how Detrex will comply with certain regulations have been attached to the draft operating license as enforceable documents. Such attachments include the Waste Analysis Plan, Inspection Schedule, Personnel Training Program, Contingency Plan, and Closure Plan and Cost Estimate.

Detrex has been found to be out of compliance with certain provisions of Act 64 during its operating life (see Compliance Summary, Attachment 1). Detrex has, however, generally been responsive in correcting the violations that have been cited.

Although the MDNR and U.S. EPA believe that they have done a thorough job of reviewing the Detrex's application for state and federal permits, both agencies seek public input on the issuance of these licenses. Section V of this Fact Sheet describes the public participation process.

## I. INTRODUCTION

Michigan's Hazardous Waste Management Act, 1979 P.A. 64, as amended (Act 64), was passed by the Michigan Legislature to regulate the management of hazardous waste from generation to disposal. Likewise, Subtitle C of the Solid Waste Disposal Act, as amended, 42 USC 6901, et. seq. [commonly known as the Resource Conservation and Recovery Act of 1976 (RCRA)], was passed by the U.S. Congress to regulate hazardous waste nationwide. The RCRA was amended substantially by the Hazardous and Solid Waste Amendments of 1984 (HSWA). These amendments require land disposal facilities to comply with more stringent technological standards, require any facility seeking a permit to initiate corrective actions for any environmental contamination at the facility originating from a solid waste management unit (SWMU) not otherwise regulated under RCRA [Section 3004], require implementation of waste minimization practices [Section 3005], and restrict land disposal of hazardous wastes [Section 3004].

Both RCRA and Act 64 established a permit system governing the treatment, storage, and disposal of hazardous wastes. RCRA allows the states to obtain authorization to issue a state hazardous waste operating license in lieu of a federal permit. Effective December 27, 1985, the State of Michigan

amended its Act 64 Administrative Rules to be equivalent to those under RCRA and applied to U.S. EPA for authorization. In October 1986, Michigan was granted authorization to administer all portions of the RCRA program except those under HSWA.

Because Michigan is not authorized to issue operating licenses which address HSWA requirements, the MDNR and the U.S. EPA will continue to issue separate permits to hazardous waste facilities. The U.S. EPA permit will, however, be simplified, and the two agencies will, to the extent possible, coordinate the review and issuance of the permits. The federal permit addresses the waste minimization, waste restrictions/land ban requirements, corrective action, toxicity characteristic rule, and air emission requirements of HSWA. The duration of both the Act 64 operating license and the federal permit will be five (5) years.

## II. DESCRIPTION OF THE FACILITY

### A. Site Description

The site location and surrounding area topographic map, and facility site plan contained in Attachment 2 show the location of the hazardous waste storage facility covered by the operating license and federal permit. The facility is located at 12886 Eaton Avenue in Detroit, Michigan.

The facility specializes in the sale of halogenated solvents and the recycling of spent solvents (hazardous wastes). The spent solvents are collected from such industries as degreasing operations at metal working industries, rubber moulding recovery operations, electronic circuit board defluxing operations, and paint spraying equipment cleaning operations.

The hazardous waste management operations at the facility include both container and tank storage. Hazardous wastes are received at the facility in both container and bulk shipments.

The hazardous wastes are stored on-site prior to being processed through the recycling system which primarily consists of distillation followed by drying.

**B. Facility Design**

The facility consists of two single-story cinder block buildings. Only one of the buildings is used for hazardous waste management operations. All of hazardous waste container and tank storage units are located within the warehouse building. The building is designed to contain over 100 percent of any leaks or spills of the stored hazardous waste. The maximum storage capacity of the facility is 13,750 gallons: 8,250 gallons of container storage and 5,500 gallons of tank storage. Detrex maintains automatic security and fire suppression systems. The MDNR has determined that the facility design meets the requirements of Act 64.

**C. Facility-Specific License Conditions****1. Compliance Schedule. Conditions VII.A.1-3**

- a. Within 30 days of the effective date of this license, the licensee shall upgrade the unloading/loading area secondary containment system by repairing any expansion joints and cracks, installing the new dike between the unloading/loading area and the transfer facility as shown in Attachment 7, Drawings 7-1 and 7-2, and provide the unloading/loading area secondary containment system with a protective coating.
- b. Within 30 days of completing the activities outlined in Condition VII.A.1 of this license, the licensee shall submit a written report to the Chief, Waste Management Division, which summarizes all of these activities.
- c. Within 30 days of request by the Chief of the Waste Management Division, the licensee shall submit a soil monitoring plan for review and approval.

**III. ENVIRONMENTAL IMPACT****A. Wastes Stored**

Attachment 3 contains a list of the acceptable waste codes for the hazardous wastes that may be stored in containers and tanks at the facility.

**B. Groundwater Monitoring Waiver**

Detrex has received a groundwater monitoring waiver for its storage facility pursuant to the demonstration it provided in accordance with R 299.9611(3)(a).

**C. Soil Monitoring Waiver**

Detrex has received an interim soil monitoring waiver for its storage facility pursuant to the demonstration it provided in accordance with R 299.9611(4). Detrex will be conducting an investigation of the facility pursuant to its corrective action obligations which are outlined in Part IV.C. of this Fact Sheet. At the completion of these corrective action activities, the MDNR will evaluate the need for soil monitoring at the facility.

**D. Ambient Air Monitoring**

Detrex will be required under the operating license to conduct ambient air monitoring at the site, in accordance with an ambient air monitoring plan approved by the Wayne County Department of Public Health, Air Pollution Control Division, to detect any releases from the facility.

**IV. HSWA REQUIREMENTS****A. Waste Minimization**

In accordance with 3005(h) of RCRA, as amended by HSWA, the draft federal permit requires Detrex to establish a program to minimize the wastes generated on site. This requirement is codified in 40 CFR 264.75 and 40 CFR 264.73.

**B. Waste Restrictions/Land Ban Requirements**

Certain hazardous wastes are restricted from land disposal unless they meet a specified treatment standard (in accordance with 3004(m) of RCRA, as amended by HSWA) designed to significantly reduce the toxicity of the waste. Hazardous waste for which a treatment standard has been set is termed a land ban waste. All hazardous wastes that were designated as land ban waste by November 8, 1984, are subject to the land ban requirements.

As a generator and storer of hazardous waste, Detrex is required by 40 CFR 268.7 to test its waste to determine if the waste is restricted from land disposal. If the waste is not a land ban waste, then Detrex can manifest the waste to an appropriate hazardous waste disposal facility. If the waste is restricted from land disposal and does not meet the specified treatment standard, then Detrex must, with each shipment, notify the treatment facility of the appropriate treatment standard for the waste. If the waste is restricted from land disposal and does meet the specified treatment standard, then Detrex must, with each shipment, certify to the disposal facility that the waste meets the applicable treatment standard.

In accordance with 3004(j) of RCRA, as amended by HSWA, Detrex may store land ban wastes for up to one year, unless U.S. EPA can demonstrate that such storage is not for the purpose of accumulation of such quantities that are necessary to facilitate proper recovery, treatment, or disposal.

Detrex has gained interim status to handle certain hazardous wastes. Hazardous wastes stored at Detrex that are land ban wastes are identified in Attachment 3.

Land ban wastes include liquid hazardous wastes containing heavy metals (e.g., D007, D008) at levels exceeding the statutory limitations of 3004(d) of RCRA, as amended by HSWA; liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 parts per million (ppm); and liquid and nonliquid hazardous wastes that contain halogenated organic compounds (HOCs) greater than 1000 ppm. Detrex is required to comply with all additional land ban waste regulations promulgated after the effective date of this permit.

#### C. Corrective Action

The HSWA also provides for Corrective Action of any release from a SWMU under Section 3004(u) and 3004(v). It also requires owners and operators to provide information to the U.S. EPA, including sampling, to support that a release has or has not occurred. For the purposes of Corrective Action, the draft federal permit requires a RCRA Facility Investigation (RFI) to be initiated to determine if hazardous waste or hazardous

constituents have been released from or are contained in all SWMUs at the facility.

Soil contamination exists at the facility. Through the permitting process, a RFI will be initiated to determine the rate and extent of this contamination and any other releases from SWMUs at the facility. In addition, the investigation will determine the extent of contamination and releases off-site.

The existence of contamination with hazardous wastes or hazardous constituents to the air will be demonstrated through air monitoring data.

A Corrective Measures Study will be performed to support the selection of a cleanup remedy for all contamination and releases.

Detrex will also be responsible for assessing, to the extent possible, the magnitude, duration, and extent of any ecological risk to ecosystems and/or protected major species potentially affected by solid and hazardous waste management areas.

D. Toxicity Characteristic Rule

In HSWA, Congress directed the U.S. EPA to examine and revise the Extraction Procedure Toxicity Characteristic and to identify additional hazardous waste characteristics, including measures of toxicity. (Toxicity is one of the four characteristics used by the U.S. EPA to determine whether a waste is hazardous.) Accordingly, the U.S. EPA promulgated the new Toxicity Characteristic (TC) Rule, on March 29, 1990. The TC Rule replaces the Extraction Procedure (EP) toxicity test with the Toxicity Characteristic Leaching Procedure (TCLP) and adds regulatory levels for 25 organic constituents. However, since Michigan is not currently authorized for the TC Rule, Detrex must comply with state regulations which require the use of the EP toxicity test as well as the TCLP in characterizing the waste stream.

The operating license and federal permit require Detrex to use the TCLP, codified in Appendix II of 40 CFR 261, EP toxicity test, or use knowledge of the waste to determine whether its waste exhibits the characteristic of toxicity as defined in 40 CFR 261.4. If waste is determined to be hazardous under the TC rule, Detrex must

manage this waste in accordance with the applicable RCRA regulations.

E. Air Emission Standards

The U.S. EPA is required by Section 3004(n) of RCRA, as amended by HSWA, to promulgate standards for monitoring and control of air emissions at hazardous waste treatment, storage, and disposal facilities, as necessary to protect human health and the environment. The U.S. EPA plans to promulgate these standards in three phases. Phase I of the standards was promulgated on June 21, 1990, and codified in 40 CFR Parts 264 and 265, Subparts AA and BB. The Subparts AA and BB standards limit organic air emissions from process vents and equipment leaks, respectively. The U.S. EPA will develop additional standards in two further phases at a later time.

The federal permit requires Detrex to comply with all applicable requirements regarding air emission standards from process vents and equipments leaks, including all recordkeeping and reporting requirements.

V. PUBLIC PARTICIPATION

A. Public Comment Procedures

The purpose of public participation is to ensure that the interested public has knowledge of the MDNR and the U.S. EPA proposed actions, and that it has the opportunity to comment on those actions. In addition, the process ensures that the MDNR and the U.S. EPA have the opportunity to benefit from any information the public might have relevant to the proposed actions. Comments may be submitted in writing to the addressees listed in Subsection C between April 16, 1992, and June 5, 1992, or comments may be presented at the public hearing. The public comment and public hearing procedures that will be followed are stated in MAC R 299.9514 and R 299.9515, and in 40 CFR 124.11 and 124.12.

The public hearing on the draft Act 64 operating license and draft federal permit will be held at 7:00 p.m., on May 21, 1992, at Cobo Hall, Oakland Zone, Second Floor, Room 0243, located at 1 Washington Boulevard in Detroit, Michigan. All persons attending the public hearing that intend to speak are requested to register by 7:30 p.m.

The public hearing location is accessible to handicapped persons. Handicappers or any person requiring specialized accommodation or assistance, such as an interpreter for the deaf, meeting materials in braille, large print or on audio tape, should contact Ms. Jan Adams at the MDNR address given below or at 517-373-9875 (TDD 517-335-4623) by April 27, 1992.

After the public hearing and the close of the public comment period, MDNR and U.S. EPA will decide whether to issue the final permits. Written comments submitted during the public comment period and statements provided at the public hearing will be considered by the Director of MDNR and the Regional Administrator of the U.S. EPA in the formulation of their final decisions. Responses to written comments and statements will be included in the record supporting the final decision of the agencies. The final permit decisions by MDNR and U.S. EPA will be communicated to the applicant, each person who submitted a written comment during the public comment period, persons providing statements at the public hearing, and all persons on the facility mailing list.

B. Locations of Available Information

The administrative record for the federal permit is on file in the RCRA Permitting Branch Office of the U.S. EPA - Region 5, located on the 8th Floor at 77 West Jackson Boulevard, in Chicago, Illinois (contact Ms. Shari Kolak at 312-886-6151), and may be inspected and copied at any time between 8:30 a.m. and 4:00 p.m., Monday through Friday, except for legal holidays. The administrative record for the Act 64 operating license is on file at the MDNR Waste Management Division Office located on the first floor of the John Hannah Building in Lansing, Michigan (contact Ms. Ronda L. Hall at 517-373-9548). In addition, copies of the draft operating license and federal permit, the Fact Sheet, and the operating license application are available for review at the MDNR District Office located at 38980 Seven Mile Road in Livonia, Michigan (contact Mr. Donald Mbamah at 313-953-0241); and at the Detroit Department of Health located at 1151 Taylor Street in Detroit, Michigan (contact Mr. George Gaines at 313-876-4000).



C. Contact Persons

Comments and requests regarding the Act 64 operating license should be addressed to:

Waste Management Division  
Department of Natural Resources  
P.O. Box 30241  
Lansing, Michigan 48909

Contact Person: Ronda L. Hall (517)373-9548

Comments and requests regarding the federal permit should be addressed to:

U.S. EPA - Region 5, HRP-8J  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Contact Person: Shari Kolak (312)886-6151

Written comments concerning the draft operating license and federal permit should include the name and address of the writer, a concise statement of the basis for the comments, and the supporting relevant facts upon which the comments are based. All further requests for information, including requests for copies of the draft operating license and federal permit, and the Fact Sheet should be made to the addressees printed above. Written comments must be postmarked no later than June 5, 1992.

**ATTACHMENT 1**

**Compliance History**

Detrex Chemical Industries (DCI)  
Detroit, Michigan  
MID091605972

COMPLIANCE CHRONOLOGY FACTS SHEET

- 01-26-82 MDNR conducted RCRA inspection.
- 02-12-82 MDNR issued a letter of warning regarding the January 26, 1982 RCRA inspection. The following deficiencies were noted:
- Danger signs are not posted at each entrance to the active portions of the facility. This is a violation of 40 CFR 265.14(c).
  - Operator logs are not recorded in an inspection log or summary; this is in violation of 40 CFR 265.15(d). Inspection records were not provided for malfunctions and operator error. This is in violation of 40 CFR 265.15(a). Facility lacked a written schedule for inspections of all safety and emergency equipment, security devices, and operating and structural equipment. This is in violation of 40 CFR 265.15(b)(1) through (4).
  - Personnel training records do not contain job titles, job descriptions, descriptions of training or records of training. This is in violation of 40 CFR 265.16(a)(1) through (4).
  - There are no provisions for communication (telephone or two-way radios) at the outside tanks used for still bottoms storage. This is in violation of 40 CFR 265.32(b).
  - Information was not available regarding arrangements agreed to by local emergency response teams this is in violation of 40 CFR 265.37(a) and (b).
  - There was no evacuation plan for the facility 40 CFR 265.52(f).
  - The Contingency Plan is not available for local emergency organizations 40 CFR 265.53.
  - One manifest without hauler certification by the facility 40 CFR 263.20(b).
- 03-16-82 DCI responded to the February 12, 1982 letter of warning.
- 01-04-83 MDNR conducted RCRA inspection.
- 01-06-83 MDNR issued a letter of compliance regarding the January 4, 1983 RCRA inspection.
- 12-12-83 MDNR conducted RCRA inspection.

01-13-84 MDNR conducted RCRA follow-up inspection.

01-13-83 MDNR issued a letter of warning regarding the December 12, 1983 RCRA inspection. The following deficiencies were noted:

- The waste analysis plan must be improved review 40 CFR 265.13 for general waste analysis requirements.
- Written inspection schedule and log were deficient in a number of areas:
  - a. The inspection log had no entries since May of 1983. There should be daily entries.
  - b. The format of your log should be improved.
  - c. The general inspection requirements are found in 40 CFR 265.15.
- No personnel training records were available. The training records must conform to 40 CFR 265.16.
- The facility was not being maintained to minimize the release of hazardous waste (40 CFR 265.31).
- There was no documentation that the arrangement with local authorities and response teams required by 40 CFR 265.37 have been made.
- The contingency plan did not indicate that the emergency coordinator will immediately notify the National Response Center in the event of an emergency and provide a written report to the Regional Administrator within 15 days after the incident.
- There was no documentation in the contingency plan that copies of the plan have been submitted to local emergency agencies and response teams 40 CFR 265.53(b).
- The closure plan must be revised to meet the requirements of 40 CFR 265 Subpart G.
- Not all of the containers holding on-site generated waste were stored closed 40 CFR 265.34(a)(3).
- The "Part A" of your hazardous waste permit application lists a process design capacity of 8,000 gallons for storage of containers (501). Our calculations suggest that storage at the time of inspection exceeded 9,000 gallons. The inventory must be immediately reduced to design level.

01-19-84 MDNR issued letter regarding the January 13, 1984 follow-up inspection.

02-03-84 DCI responded to the January 13, 1984 letter of warning.

03-01-84 MDNR issued a return to compliance letter regarding the December 12, 1984 RCRA inspection.

11-06-85 MDNR conducted RCRA/Act 64 inspection.

11-14-85 MDNR issued a letter of warning regarding the November 6, 1985 RCRA inspection. The following deficiencies were noted:

- 40 CFR 265.14(c) requires the disposal facility to post a sign stating "Danger-Unauthorized Personnel Keep Out" at each entrance. Five access doors did not have the above sign markings.
- 40 CFR 265.16(c) requires personnel training to include annual reviews. Your personnel had not received training since February, 1984.
- There were no Act 64 deficiencies observed.

11-18-85 DCI responded to the November 14, 1985 letter of warning.

11-25-85 MDNR issued a return to compliance letter regarding the November 6, 1985 RCRA inspection.

06-03-86 MDNR conducted RCRA inspection.

06-11-86 MDNR issued a letter of compliance regarding the June 3, 1986 RCRA inspection.

12-03-86 MDNR conducted RCRA inspection.

12-05-86 MDNR issued a letter of compliance regarding the December 3, 1986 RCRA inspection.

06-16-87 MDNR conducted RCRA inspection.

07-15-87 MDNR issued a letter of warning regarding the June 16, 1987 RCRA inspection. The following deficiency was noted:

- The facility must post the location of fire extinguishers and spill control equipment near the emergency telephone 40 CFR 262.34(d).

03-01-88 MDNR conducted RCRA/Act 64 inspection.

03-18-88 MDNR issued a letter of compliance regarding the March 1, 1988 RCRA/Act 64 inspection.

03-15-90 MDNR conducted RCRA inspection

03-19-90 MDNR issued a letter of warning regarding March 15, 1990 RCRA inspection.

- Stored transfer waste longer than (Rule 404(2)).
- Did remove accumulated liquid in the secondary containment in a timely manner (265.175(b)(5))
- The staging area of the transfer waste is not

- properly contained or sloped (265.175(b)(3))
- You have not received a signed copy from the designated facility (Rule 308(3): 262.42)
- No land Ban notification was attached to manifest (268.7(a)(2)).
- The operating log did not have the date of storage and treatment for some of the waste (Rule 609(1)(a): 265.73(b)(1)(11)).
- The vehicle with serial number IGDTC4ZOBV580767 did not have all the required lettering and licenses on one side (Rule 406(6)).
- The rail car is not managed to prevent release of hazardous waste into the environment (Rule 407(a)).
- The rail car as a storage mechanism does not have containment (Rule 404(2): 264.175).
- The rail car was not managed to prevent leaks (265.173(b)).
- There was evidence that hazardous waste constituents have been released and escaped at the facility. (Rule 407(a)).
- Two drums of hazardous waste in the quality control area were stored open while not in use (Rule 265.173(a)).
- There was no danger signs at entrance of the facility as required under 265.14(c).
- The personnel training record did not indicate that employees have taken part in the annual review of initial training in 1989 (265.16(c)).
- There was not adequate aisle space for the unobstructed movement for personnel and emergency equipment (265.35).
- The contingency plan did not contain a plan that describes signals to be used to begin evacuation, evacuation routes and alternate evacuation routes. (265.53(f)).
- 80 drums of hazardous waste were not marked with accumulation start date (262.34(a)(2)).
- One 5-gallon-bucket was neither marked with the words "Hazardous Waste" nor with the hazardous waste number (Rule 306(2), 302(2): 262.34(c)(1)(ii)).
- The facility has not developed and followed a schedule and procedure for inspecting overfill controls (264.195(a)).
- Please send copy of the assessment you did on your existing tank (264.191).

05-21-90

MDNR issued a second letter of warning regarding March 15, 1990 RCRA inspection.

- The land ban notification for manifest number MI 1652440 did not have the treatment standards (40 CFR 268.7)

- You did not report the accidental release of hazardous waste into the environment (265.77(a-c))

04-20-90 Detrex responds to violation cited during MDNR's inspection on March 15, 1990.

09-26-90 MDNR conducted a financial review on the facility financial mechanisms.

06-05-91 Detrex responds to violation cited during MDNR's second letter of warning may 21,1990 regarding the inspection on March 15, 1990.

01-29-91 MDNR issued a return to compliance letter regarding the March 15, 1990 inspection.

02-01-91 MDNR issued a return to compliance letter regarding February 8, 1989 inspection.

02-12-91 MDNR conducted a RCRA inspection.

03-12-91 MDNR issued a letter of warning regarding February 12, 1991.

- The training program is not designed to ensure that facility personnel can respond effectively to emergencies (40 CFR 265.16(a)(3)).
- The personnel training record did not indicate that personnel have taken part in the annual review of initial training (40 CFR 265.16(c)).
- The transfer facility does not have adequate aisle space for unobstructed movement of personnel of personnel and emergency equipment (40 CFR 265.43).
- The following documents was not upgraded to include the transfer facility:
  - a) Preparedness and prevention. (40 CFR 264.30)
  - b) Emergency contingency plan. (40 CFR 265.54)
  - c) Closure plan. (R. 299.9613)
  - d) Training program to include the emergency contingency plan. (40 CFR 265.16)

03-28-91 Detrex responded to March 12, 1991 letter from MDNR regarding February 12, 1991 inspection.

03-28-91 MDNR issued a return to compliance regarding February 12, 1991 inspection.

09-16-91 MDNR conducted a financial review on the facility  
financial mechanisms.

09-16-91 MDNR issued a compliance letter regarding the financial  
review.



**ATTACHMENT 2**

**Facility Diagrams**

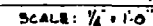


DIAGRAMMATIC - NOT TO SCALE

- ### GENERAL NOTES
1. All concrete shall have a minimum compressive strength of 4000 psi at 28 days, be air entrained, and have a minimum of 6 bags of cement.
  2. All steel reinforcement shall be free of rust, free of mill scale, and free of any other deleterious material. All steel reinforcement shall conform to Standard Specification ASTM A615 Grade 60; Deformation ASTM A395.
  3. All granular backfill shall be thoroughly compacted to 95% of the standard Proctor density.
  4. Qualify all construction joints to be International Construction Inspection Association (ICCI) approved.



SCALE:  $\frac{3}{4}" = 1'-0"$

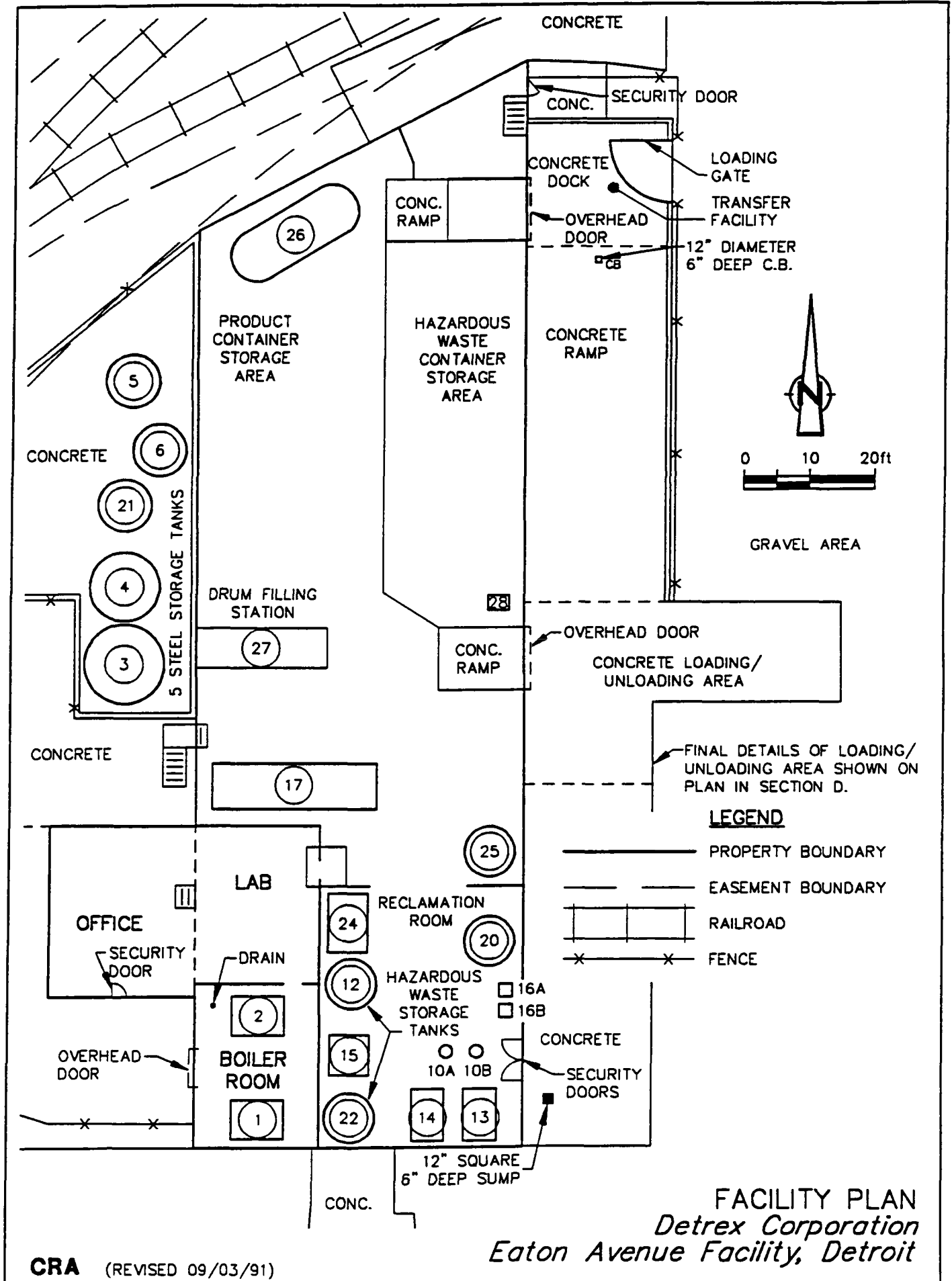


SCALE: 1/4" = 1'-0"

DATE	REQN. #	DESCRIPTION	APPROVAL
5-28-82	- 1 -	Mobile, Curv	K. Davis

LOADING AREA CONTAINMENT STRUCTURE  
FOR  
GOLD SHIELD SOLVENTS  
DIVISION OF DETROX CORPORATION  
12886 EATON AVE. DETROIT, MICHIGAN

COMM. NO. 91-1183	DATE AUG. 19, 1991	<b>ROBERT J. DAVIS, P.E.</b> CONSULTING ENGINEER 3610 HOUCK TOWER DETROIT, MICHIGAN 48226	DRWS. NO.  1 OF 1
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Date: 09/03/91

Revision: 91-2

### LIST OF PROCESS EQUIPMENT

<i>I.D. No.</i>	<i>Equipment Name</i>	<i>Description</i>
1.	Generator	Clayton Model E-100 Steam Generator. Unit burns natural gas to produce steam at the rate of 3450 lbs./hr. at 100 psig.
2.	Air Compressor	
3.	20,000 gal. Product Tank	20,000 gallon carbon steel storage tank for storage of 1,1,1 Trichloroethane.
4.	10,000 gal. Product Tank	10,000 gallon carbon steel storage tank for storage of Trichloroethylene
5.	4,500 gal. Product Tank	4,500 gallon carbon steel storage tank for storage of Perchloroethylene.
6.	4,500 gal. Product Tank	4,500 gallon carbon steel storage tank for storage of Trichloroethylene
10 A/B	2 - 600 gal. Receiver Tanks	Used for receiving product from Detrex stills. (Operated at atm. pressure).
12.	2,300 gal. Hazardous Waste tank storage tank	2,300 gallon carbon steel storage tank used for storage of F001 or F002 material prior to processing
13.	350 gal. Detrex Still	Detrex Model S-350. Used for recovering chlorinated solvents from spent solvents from degreasing operations (F001 material) via distillation. This unit can process approximately 2,000 gallons/day.
14.	350 gal. Detrex Still	Detrex Model S-600. Used for recovering chlorinated solvents from spent solvents from degreasing operations (F001 material) via distillation. This unit can process approximately 2,000 gallons/day.
15.	DCI Still	DCI Model Dyna-1-100 Solvent Recovery Still. Used to recover chlorinated solvents from still bottoms from recovery of same (F002 material) via live steam injection. This unit can process approximately 100 gallons per hour.
16 A/B	Drying Columns	Detrex Dual Column Drier. Used to remove water from recovered product (solvent) via adsorption.

Date: 09/03/91  
Revision: 91-2

**LIST OF PROCESS EQUIPMENT**

<i>I.D. No.</i>	<i>Equipment Name</i>	<i>Description</i>
17.	5,000 gal. Still Bottom Tank	5,000 gallon carbon steel storage tank. Used for temporary accumulation of still bottoms from recovery of chlorinated solvents (F002 material).
20.	2,500 gal. Holding Tank	2,500 gallon 316 stainless steel storage tank used for storage of reclaimed solvent.
21.	4,500 gal. 1,1,1 Trichloroethane	4,500 gallon carbon steel storage tank for storage of 1,1,1 Trichloroethane.
22.	4,500 gal. Hazardous Waste Storage Tank	4,500 gallon carbon steel storage tank used for temporary storage of F001 or F002 material prior to being processed by Detrex stills.
24.	DCI Still	DCI Model Dyna-1-500 Solvent Recovery Still. Used to recover chlorinated solvents from still bottoms from recovery of same (F002 material) via live steam injection. This unit can process approximately 500 gallons per hour.
25.	3,000 gal. Holding Tank	3,000 gallon 316 stainless steel storage tank used for storage of reclaimed solvent.
26.	SVRM - Carbon Absorption Unit	
27.	Drum Filling Station	Product Drumming Station. Used for filling 55-gallon drums with product. Unit can fill approximately 30 drums per hour and is operated as necessary.
28.	Product Blending Vessel	550 gallon carbon steel vessel utilized for product blending.